

OFFICIAL TRANSCRIPT OF PROCEEDINGS BEFORE THE POSTAL RATE COMMISSION

In the Matter of:
POSTAL RATE AND FEE CHANGES

)
) Docket No. : R2006-1
)

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POSTAL RATE COMMISSION

In the Matter of:)
) Docket No.: R2006-1
POSTAL RATE AND FEE CHANGES)

Suite 200
Postal Rate Commission
901 New York Avenue, N.W.
Washington, D.C.

Volume 34
Friday, December 1, 2006

The above-entitled matter came on for hearing pursuant to notice, at 9:36 a.m.

BEFORE :-

HON. GEORGE A. OMAS, CHAIRMAN
HON. DAWN A. TISDALE, VICE-CHAIRMAN
HON. RUTH Y. GOLDWAY, COMMISSIONER
HON. TONY HAMMOND, COMMISSIONER
HON. MARK ACTON, COMMISSIONER

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C O N T E N T S

WITNESSES APPEARING:
 MARC D. MCCRERY
 MICHAEL D. BRADLEY
 ANTOINETTE CROWDER

<u>WITNESSES:</u>	<u>DIRECT</u>	<u>CROSS</u>	<u>REDIRECT</u>	<u>RECROSS</u>	<u>VOIR DIRE</u>
Marc D. McCrery	11453	--	--	--	--
By Mr. Volner	--	11473	--	--	--
By Mr. Costich	--	11519	--	--	--
By Mr. McLaughlin	--	11537	--	--	--
Michael D. Bradley	11544	--	--	--	--
By Mr. Costich	--	11598	--	--	--
	--	11632	--	--	--
Antoinette Crowder	11635	--	--	--	--
By Mr. Costich	--	11661	--	--	--

C O N T E N T S

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Corrected rebuttal testimony of Antoinette Crowder behalf of Magazine Publishers of America, et al., MPA et al.-RT-1	11638

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E X H I B I T S

<u>EXHIBITS AND/OR TESTIMONY</u>	<u>IDENTIFIED</u>	<u>RECEIVED</u>
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P R O C E E D I N G S

(9:36 a.m.)

CHAIRMAN OMAS: Good morning. Today we continue hearings to receive testimony in rebuttal to participants' direct testimony in Docket No. R2006-1.

Three witnesses are scheduled to appear today: Marc McCrery, Michael Bradley and Antoinette Crowder.

Does anyone have any procedural matters to discuss at this point before we continue?

(No response.)

CHAIRMAN OMAS: There being none, Ms. Portonovo, you may begin. Would you introduce your witness? He's already been sworn in in this proceeding.

MS. PORTONOVO: Thank you, Mr. Chairman. The Postal Service calls Marc D. McCrery to the stand. Whereupon,

MARC D. MCCRERY

having been previously duly sworn, was recalled as a witness herein and was examined and testified further as follows:

(The document referred to was marked for identification as Exhibit No. USPS-RT-14.)

1 DIRECT EXAMINATION

2 BY MS. PORTONOVO:

3 Q Mr. McCrery, in front of you you have two
4 copies of a document called Rebuttal Testimony of Marc
5 D. McCrery on Behalf of the United States Postal
6 Service marked as **USPS-RT-14**.

7 Were the contents of these documents
8 prepared by you or under your direct supervision?

9 A Yes.

10 Q If you were to give the contents of this
11 document orally today, would they be the same?

12 A Yes.

13 MS. PORTONOVO: With that, Mr. Chairman, the
14 Postal Service requests that these documents be moved
15 into evidence.

16 CHAIRMAN OMAS: Is there any objection?

17 (No response.)

18 CHAIRMAN OMAS: Hearing none, I will direct
19 counsel to provide the reporter with two copies of the
20 corrected direct testimony of Marc McCrery.

21 That testimony is received into evidence and
22 is to be transcribed into the record.

23 //

24 //

25 //

1 (The document referred to,
2 previously identified as
3 Exhibit No. USPS-RT-14, was
4 received in evidence.)

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USPS-RT-14

**BEFORE THE
POSTAL RATE COMMISSION
WASHINGTON DC 20268-1001**

POSTAL RATE AND FEE CHANGES, 2006

Docket No. R2006-1

**REBUTTAL TESTIMONY
OF
MARC D. McCRERY
ON BEHALF OF THE
UNITED STATES POSTAL SERVICE**

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AUTOBIOGRAPHICAL SKETCH

My name is Marc McCrery. I have been the Manager, Operational Requirements and Integration within Operations Planning since April 2004. My office serves as the focal point for operations planning related to operational impacts of rate and mail preparation issues. We interface with pricing, finance, mailing standards, and customers to evaluate and implement various internal and external rate and mail preparation changes. Specific responsibilities include assisting in the development of mail preparation standards and rate-related changes to ensure compatibility with operational processing, determining operational impacts resulting from rate and mail classification cases, and preparing the field for the expected changes before implementation.

I joined the Postal Service in 1990 as an Industrial Engineer Trainee. My first assignment was to work at the Des Moines, IA Processing and Distribution Facility with the purpose of learning mail processing operations. A large portion of this period was spent supervising automation on Tour 1. This was followed by supervisory responsibilities at a delivery station in Des Moines, IA, followed by project work in the Engineering Technical Unit (ETU). My second year of training was spent in Harrisburg, PA working in the ETU primarily supporting the plant on staffing, scheduling, and quality projects.

1 Upon leaving the training program in late 1992, I moved to USPS Headquarters
2 as a member of the Facility Activation group, with responsibilities to activate new, large
3 mail processing facilities throughout the country.' From that office, I moved to Bulk Mail
4 Center Operations and then to Processing and Distribution Center Operations. During
5 these assignments, I visited dozens of mail processing plants and every Bulk Mail
6 Center within the network. In 1996, I joined the staff of my current office, Operational
7 Requirements and Integration. My responsibilities included developing enhancements
8 to mail preparation requirements and support work on the proposals, testimony,
9 interrogatories, and implementation activities for the R97-1, R2000-1, and R2001-1 rate
10 cases. In 2003, I was promoted to the Manager, Business Mailer Support within
11 Marketing where I was responsible for the management of major mailer postage
12 payment systems and a mail preparation total quality management program for presort
13 bureaus and letter shops. Then in 2004, I was again promoted to the Manager,
14 Operational Requirements and Integration. Last year, I testified as the Operations
15 witness in Docket No. R2005-1. I also had a temporary assignment lasting 3 ½ months
16 in 2004 as the Plant Manager of the Burlington, VT Processing and Distribution Facility.

17 I have a Bachelor of Science Degree in Industrial Engineering from the University
18 of Wisconsin - Madison.

19 I am the Postal Service Operations witness in the R2006-1 direct case (USPS-T-
20 42).

REBUTTAL TESTIMONY**OF****MARC D. McCRERY****PURPOSE AND SCOPE**

My testimony rebuts portions of the testimonies of witnesses Glick (MPA/ANM-T-2), Mitchell (VP-T-1), witness Posch (POSTCOM-T-3), and Knight (POSTCOM-T-7).

This testimony will show that:

- A discount on 5-digit pallets, regardless of their entry location or weight, would be detrimental operationally for the Postal Service.
- Allowing automation carrier route letters as an unrestricted preparation increases postal costs, while providing no additional value in postal processing.
- Raising the weight limit for Standard Mail letters from 3.5 ounces to 4.0 ounces is impractical given the current configurations of Postal Service mail processing equipment.
- The Postal Service's proposed Not Flat-Machinable (NFM) category is necessary to correct well-known and long-standing operational problems.

I. Witness Glick's Proposed 5-Digit Discounts for Pallets, Regardless of Entry Location or Weight, Is Detrimental Operationally

Witness Glicks (MPAIANM-T-2) proposal of a discount on 5-digit pallets, regardless of their entry location or weight', would have a detrimental operational impact on the Postal Service. Any rate incentives associated with 5-digit/scheme pallet preparation should be tied to a requirement to deposit these pallets at the DSCF or DDU to ensure that significant postal costs are not added to the process.

Bundles prepared on working pallets (e.g., SCF, ADC) require additional components of distribution in postal plants. When mail is prepared on a presort destination pallet and entered upstream from the ultimate destination, the pallet must be placed on postal or postal contract transportation in order to be moved to the destination facility. Each pallet will occupy space on that truck matching at least the footprint of the pallet'. It may be determined that a pallet with minimal contents may not justify the space that it will occupy on the truck, therefore the contents of the pallet will be combined with contents to the same destination within another container. This consolidation can negate much of the benefit of the pallet.

Because 5-digit/scheme pallets contain only mail for a single delivery unit, these pallets tend to be smaller; therefore the issues related to truck space utilization and content consolidation are of greater concern. These issues can be mitigated in large part or even entirely when smaller 5-digit/scheme pallets are dropshipped to either the

¹See MPAIANM-T-2 at 28-30.

² Pallets prepared by customers are seldom stacked with other customer pallets prior to postal transport due to stability concerns and the lack of the necessary equipment.

1 destination SCF (DSCF) or the destination delivery unit (DDU), which is a very
2 common practice³.

3 Since customers can optionally prepare pallets of flat bundles with 250 or more
4 pounds of mail to a destination (required at 500 pounds), witness Glick's proposal
5 would give customers, including customers that do not *often dropship* and/or prepare
6 sacks, an incentive to prepare small 5-digiffscheme pallets to the greatest extent
7 possible while depositing those pallets at an origin facility. Again, handling and
8 transporting these small pallets can be problematic.

9 Finally, even when 5-digiffscheme pallets are deposited at a DSCF, there are still
10 the same concerns with transportation, though to a lesser extent. See TW/USPS-T42-
11 8/Tr. 11/3038-3040. Therefore, it would not be advisable to provide incentives for the
12 preparation of 5-digiffscheme pallets containing less than 250 pounds even when
13 deposited at DSCFs.

14
15 II. Enhanced Carrier Route Automation Letter Mail Preparation Should Be
16 Eliminated. To Allow Automation Carrier Route Letters as an Unrestricted
17 Preparation Increases Postal Costs, While Providing No Additional Value in
18 Postal Processing
19

20 Witness Mitchell proposes (in VP-T-1, page 126, line 12) that the Commission
21 consider creating an unrestricted category Enhanced Carrier Route Automation letters.
22 However, because close to 90 percent of delivery point sequencing of letters is
23 performed on DBCS equipment, unrestrictive carrier-route preparation of automation
24 letters would only result in additional, more finely presorted trays that provide no

³ Mail characteristics reveal that 95.6 percent of Periodicals 5-digiffscheme pallets are entered at destination facilities with 88.6 percent entered at either the DDU or DSCF.

1 additional value in postal processing. In addition, there is a cost associated with
2 preparing these additional trays, as well as costs within postal operations to handle
3 these additional unnecessary trays.

4 Preparation of carrier route letters in First-class Mail and Enhanced Carrier
5 Route Automation letters in Standard Mail are restricted only to zones for which letter
6 mail is processed to the carrier-route level manually or on Carrier Sequence Barcode
7 Sorters (CSBCSs). This preparation was created in 1996 as a discount option that was
8 intended to encourage letters prepared in a manner that further matches postal
9 operations. When letters are processed on CSBCS equipment, carrier-route sorted
10 volume can be processed in a three-pass operation into delivery point sequence order.
11 See USPS-T-42, page 7. This process is unique to the CSBCSs, with the balance of
12 sequencing performed on Delivery Barcode Sorters (DBCSs), where 5-digit scheme
13 sorted letters are sequenced in a two-pass operation. Proper handling of this volume
14 requires unique labeling, coordination, and training to ensure that the benefit of
15 automation carrier route sortation is maximized. In addition, the eligible zones are
16 provided to mailers through an Address Management product, a list that must be
17 updated in a timely manner to ensure preparation matches postal processing.

18 As the Postal Service takes additional steps to automate a greater percentage of
19 the letter mail base, along with a further centralization of delivery point sequencing on
20 DBCSs in postal plants, the limited additional value of automation carrier route
21 sortation is further eroding. In addition, the Postal Service is in the early stages of an
22 additional phase of DBCS purchases that will completely phase out the CSBCS fleet.

23 See response to POIR No. 8, Question 15(a)-(c)/Tr. 11/3021. Even prior to the

See TW/USPS-T28-7-8/Tr. 7/1515-1516.

retirement of CSBCS equipment, there are many instances where the value of the carrier-route sortation is not fully realized. If the trays are not labeled properly or identified such that they can be directed in an appropriate manner, or it is determined that it would be more efficient to consolidate these letters to the appropriate CSBCS schemes on DBCS equipment, the carrier-route sort provides no value. Since CSBCS equipment can process up to six routes on a single sort plan, processing the automation carrier route volume labeled to these multi-carrier schemes first on a DBCS is more likely to occur, since pure carrier-route sorting is suboptimal. Smaller volumes of letters from multiple mailings will then be combined in significantly fewer trays for more efficient dispatch, transport, and CSBCS induction.

Once automation carrier route preparation is eliminated and automation letters shift from carrier route to 5-digit automation trays, the fewer resulting trays will be directed to the proper destination plant where the trays will then be processed on the appropriate incoming secondary **sort** plans. Letter volume that is further sequenced on CSBCS equipment will be grouped on the DBCSs to the CSBCS sort plans and then directed to this equipment.

Continuing the preparation of automation letters in pure carrier-route trays no longer comports with current operational realities, and the additional trays that are created under this preparation are costly. An expansion of this category makes even less sense. Furthermore, Witness Mitchell's rate design proposal would result in automation letters migrating to the nonautomation Enhanced Carrier Route Basic category. **See** Tr. 25/8998-8999. This would be an undesirable result, since letters in this category are neither required to be automation compatible nor barcoded.

Furthermore, ten or more letters *must* be prepared to the appropriate carrier route under this category, a sort that provides no value for a vast majority of delivery zones that are sequenced on DBCS equipment.

III. Witness Posch's Proposal to Raise the Weight Limit For Enhanced Carrier Route Standard Mail Automation Letters From 3.5 to 4.0 Ounces Is Impractical Given the Current Configurations of Postal Service Mail Processing Equipment

On page 3 of his testimony, Witness Posch asserts that "there is, plainly, no operational rationale for the current maximum weight limits for automation letters." POSTCOM-T-3 at 3. This is indeed surprising, given that in response to MMA/USPS-T42-5/Tr. 11/2843-2847, I attached the "3.5 ounce Heavy Letter Field Evaluation Report", which specifically states:

Test decks of 100% 3.7 ounce mail caused excessive amounts of damage to the equipment. Because of this, processing of the 3.7 ounce test decks was discontinued. Because of this, it is recommended that any future request to raise the weight limit above 3.5 ounces should be rejected as impractical given the current configurations of USPS mail processing equipment. Tr. 11/2846.

Since this test was conducted, there have been no changes to the base DBCS equipment fleet to invalidate these conclusions..

In my direct testimony, I did say that a portion of the DBCS fleet is equipped with expanded capabilities, which allow for the processing of letters with physical characteristics outside of the limits of base DBCS equipment, including the processing of pieces up to 6.0 ounces. See USPS-T-42, pages 6 and 7. However, I also indicated that, even after all new EC machines are deployed and existing machines are modified,

1 only 617 out of approximately 5,200 DBCS machines are expected to have expanded
2 capabilities by the middle of 2007. See USPS-T-42, pages 6 and 7/Tr. 11/3223. This
3 means that less than 12 percent of the fleet will have the ability to process letters that
4 weigh more than 3.5 ounces. It would be wrong to conclude that, because the Postal
5 Service has a limited number of modified and new machines that can process pieces
6 over 3.5 ounces, the maximum weight for all automation letters should be increased.
7 This would be analogous to raising the maximum truck weight limit on all roads simply
8 because certain highways can accommodate the higher weights.

9 The **EC** machines primary function is to process thicker and heavier outgoing
10 single-piece letters that are culled from the collection mail stream. The expanded
11 capabilities provide the opportunity to sort these originating letters to the destination in
12 an automated operation, though with a significantly lower throughput⁴, thereby
13 minimizing the dependency on manual operations. These thicker/heavier letters are
14 labeled such that when they do arrive at the destination plant, the volume may again be
15 processed to the zone level, assuming the plant has EC equipment machines.

16 The ultimate goal of automated letter processing is to place the pieces in delivery
17 point sequence. Since the size of the DBCS fleet is driven by the delivery point
18 sequencing windows, and only a significant minority of the DBCS equipment is EC
19 equipped, very few thicker/heavier letters are processed into sequence order. In fact,
20 the 5-digit output trays from EC machines must remain segregated and directed to
21 manual operations for distribution to the carrier-route level, since the pieces can no

⁴ DBCS normal mode target throughput is approximately 37,000 pieces per hour while the **EC** mode target is approximately 16,000 pieces per hour.

1 longer remain in automation. If the trays were directed to downstream automation for
2 delivery point sequencing, the thicker/heavier letters would first need to be extracted.

3
4 **IV. The Postal Service's Proposed Not Flat-Machinable (NFM) Category is**
5 **Necessary to Correct Well-Known and Long-standing Operational**
6 **Problems**
7

8 In his testimony, witness Knight (POSTCOM-T-7) rejects the Postal Service's
9 proposal of a Not Flat-Machinable (NFM) classification (and its accompanying rates).
10 He states "A wiser choice for the Postal Service would be adapt its operations to fit the
11 existing and traditional specifications of its customers' products, or, at the very least, to
12 give some consideration to what has worked up until the present time." See
13 POSTCOM-T-7 at 2.

14 The Postal Service has indeed given some consideration to what has worked up
15 until the present time, and can safely say that rigid, boxed mailpieces currently
16 classified as automation flats do not work. These mailpieces have not "worked" as
17 automation flats within postal operations since 1998, when they started appearing within
18 the system under this processing category. And, the Postal Service has communicated
19 this problem to the public as well as to individual mailers.

20 In R97-1, a residual shape surcharge (RSS) was added for any non-letter in
21 Standard Mail that did not meet either the definition of a presorted or automation flat.
22 This pricing change resulted in some customers reconfiguring their mail pieces or
23 changing their marketing strategy (e.g., mailing coupons instead of samples). Around
24 this same time period, the Postal Service was deploying Flat Sorting Machines 1000
25 (FSMs 1000) in order to move more flat mail out of manual processing and into a

1 mechanized operation. In 1998, the Postal Service expanded the definition of an
2 automation flat to include pieces that could be processed on FSMs 1000. Since the
3 FSM 1000 equipment at the time utilized only a manual induction process and a belt
4 channel for transport, the machines could physically process thicker, more rigid pieces.

5 Soon after these requirements were effective, customers impacted by the RSS
6 started to prepare rigid mail pieces as automation flats under the new FSM 1000
7 definition. Almost immediately thereafter, it became obvious that it was a mistake to
8 base the FSM 1000 flats definition on the strict capabilities of the equipment, rather than
9 also factoring in the entire system and the appropriate mail to be inducted into a flat mail
10 stream. Our Bulk Mail Centers quickly began to complain that small parcels (e.g.,
11 optical disks in rigid cases) that were formerly prepared loose in pallet boxes for efficient
12 parcel sorter induction were now arriving bundled. These bundles were often poorly
13 secured, and, even when they remained intact, the bands were often cut to enable
14 parcel processing of the loose pieces, negating any value of the bundle presort,

15 Flexible flat-shaped mail pieces (e.g. magazines and catalogs) are typically
16 prepared in bundles to a presort destination, then either palletized or sacked. Parcels,
17 however, are likely prepared loose on pallets, in pallet boxes, or in sacks. Furthermore,
18 parcels tend not to lend themselves well to secure bundling, and bundles in parcel
19 distribution operations often hinder the sorting processes.

20 The new FSM 1000 automation flat definition resulted in mail pieces being
21 categorized and prepared in a manner that is inconsistent with how they were being
22 processed. Within the last five years, this problem has become even worse, as FSM
23 1000 equipment has been modified with automated feeders and the machines are being

1 redeployed to smaller plants'. Most rigid pieces are now unable to be processed on
2 Upgraded FSM (UFSM 1000) equipment in an automated environment. Automated
3 feed technology, in most cases, requires some mail piece flexibility to enable the suction
4 device to grip the mail piece. Furthermore, rigid pieces do not discharge well into output
5 chutes, often standing up on end or not stacking neatly within the **tubs**'. Rigid mail
6 pieces lacking the necessary flexibility must therefore be processed manually or in a
7 mechanized or automated operation as a parcel.

8 Due to the significant impact that these conversions were having on postal
9 operations, customers were notified of the problems, specifically customers mailing
10 large quantities of optical disks and rigid merchandise samples prepared as flats. The
11 concerns were also spelled out by Witness Kingsley in R2000-1, and again in R2001-1.

12 The Postal Service has repeatedly stated its intention to fix this problem by modifying
13 the definition of a flat to be more consistent with how pieces are both processed and
14 delivered. Starting in 2002, customers were consulted in a formal "Product Redesign"
15 effort tasked with realigning our products and preparation to be more compatible with
16 changing processes. Within a subgroup on parcels and Bound Printed Matter, the topic
17 of rigid pieces with parcel characteristics prepared as flats was discussed at length with
18 major customers in this market in attendance. Customers were notified of the Postal
19 Service preference for flexible flat mail pieces meeting the new Automated Flats Sorting

⁵ See USPS-T-42 at 19.

⁶ Small, rigid, boxed mailpieces not only cause problems on our mail processing equipment, they also cause problems in our delivery operations. The delivery function prefers that parcels not be mixed in with flats due to the different methods required for delivery, forcing a manual extraction of parcels out of the flats before distribution if commingled. See USPS-T-44 at 14.

Machine 100 (AFSM **100**) standards published in 2002, and customers were informed that the Postal Service intended to correct this problem as soon as possible.⁷

A modified definition of flat-shaped mail more in line with processing operations and delivery is vitally important. In my opinion, the NFM category is the appropriate categorization of small, rigid mail pieces. It is very important to move these pieces to a distinct category with appropriate mail preparation rules and unique markings, so this volume can be processed with appropriately distinct operating procedures, and actual volumes of these pieces can more easily be tracked in our data systems. There appears to be little disagreement in regards to whether these pieces have higher costs in comparison to other flat-shaped mail. Proper accounting of the new NFM category will enable the collection of data for use in future pricing and classification decisions.*

Currently, customers mailing these rigid, parcel-like mail pieces have few incentives to modify their mail pieces to be more compatible with postal processing and delivery, even though these changes would surely remove costs from the system to the benefit of all mailers. Automation compatible mail pieces that can be efficiently delivered will be even more important as we progress towards a fully automated

⁷ Witness Knight (POSTCOM-T-7) repeatedly stated that BMG Columbia House Inc. invested considerable amounts of money in 2002 to produce flats that meet the definition of an AFSM 100 compatible flat. See Tr. 21/7454-7455, 7468. The AFSM 100 flats definition requires pieces to have a minimum height and length of 5" x 6". The single-CD BMG mail piece, a large portion of their mail volume, has height and length dimensions of 5 1/8" x 5 7/8", smaller than the minimum dimensions for AFSM 100 compatibility. Therefore, these single, as well as multiple, CD mail pieces are not compatible with the AFSM **100**, and are considered automation flats only by virtue of the UFSM 1000 definition.

⁸ If the NFM category is not an option when the definition is ultimately modified, the only other options within Standard Mail would be machinable or nonmachinable parcel preparation – which would result in a harsher and more costly transition for mailers.

1 processing environment for letters and flats, where volume falling outside **of** these mail
2 streams could shoulder much of the remaining "in-office" costs.

3 It is the preference of **Postal** Service Operations that customers have strong
4 incentives to seek **out** mailing options that are significantly less costly within the postal
5 mail stream, for example, flexible, automation-compatible flats. We believe that most
6 customers impacted by these proposed changes would have lower price options within
7 the mail if they were *to* determine that the NFM rates were too high. The Postal Service
8 has been working with customers for years to convert their mail pieces; and has
9 received numerous additional requests for assistance since our proposals were made
10 public. The appropriate Postal Service resources in Marketing, Operations, and
11 Engineering will continue to be made available to assist customers through this
12 transition.

13 The R2006 mailing standards published in the Federal Register on September 27
14 provide the proposed specifications for automation flats. Though additional clarifying
15 language could be added within the final rule, we do not expect the final standards to be
16 more restrictive; therefore, customers should have the necessary information to convert
17 their mail pieces.

18 For example, customers mailing flexible content (e.g., greeting cards) are finding
19 it simply a matter of removing the contents from a box and placing them in an envelope
20 or within poly-wrap. For customers mailing rigid contents (e.g., optical disks in rigid
21 cases), there are some very encouraging prototype samples where the rigid product is
22 affixed within a uniformly thick, flexible envelope. **As** long as the rigid contents are not
23 too large (e.g. pens, medallions), there are other options where the contents are affixed

1 on or within a flexible backing (e.g., cardboard or foam), then placed in a flexible
2 envelope or wrap. Evaluation and automation testing of any mail piece designs can be
3 performed, not only to ensure that the pieces meet the proposed standards, but also
4 process well and can be delivered in an efficient manner. If the rigid contents are too
5 large to pass the necessary mailing standards for flats (e.g., larger, rigid books), it is
6 important that customers explore all options, including Bound Printed Matter and Media
7 Mail machinable parcels, for other reasonably priced alternatives.

8 In this regard, the Postal Service's proposals in this proceeding provide realistic
9 incentives to help establish a more efficient and effective mailstream. In particular, the
10 Postal Service believes strongly that the refined definition of flat-shaped mail, the
11 proposed NFM category, and the pricing incentives to convert rigid parcels to flexible
12 flats, together, will result in a more efficient postal system for all users.

13

CONCLUSIONS

In conclusion, 5-digit scheme pallets can provide consistent benefits under appropriate restrictions, automation carrier route letter mail preparation should be eliminated based on the future of mail processing and the desire to streamline our offerings and operations, DBCS equipment with expanded capabilities cannot be relied on to process heavy letters, and finally rigid mail pieces that have parcel characteristics must be moved out of flat mail preparation and into a distinct category (**NFMs**) in order to promote efficient mail processing and mail piece design and facilitate accurate volume and improved cost recording.

1 CHAIRMAN OMAS: This now brings us to oral
2 cross-examination.

3 There have been three requests for oral
4 cross-examination. The Alliance of Nonprofit Mailers
5 and Magazine Publishers of America, Mr. Levy?

6 MR. VOLNER: Mr. Chairman, I think Mr. Levy
7 has been delayed. There have been some problems I
8 think on the Metro.

9 CHAIRMAN OMAS: Well, I think he may be a
10 little tired from yesterday.

11 MR. VOLNER: I can understand that.

12 CHAIRMAN OMAS: Well, with that, Mr. Volner,
13 would you introduce yourself, and you may take
14 control?

15 MR. VOLNER: Certainly. Thank you, Mr.
16 Chairman.

17 CROSS-EXAMINATION

18 BY MR. VOLNER:

19 Q Mr. McCrery, I am Ian Volner, and I will be
20 discussing some of your rebuttal testimony with you on
21 behalf of the Association for Postal Commerce.

22 Given the length of the time that was spent
23 yesterday, I'm going to try to move through this
24 quickly, so I hope you will bear with me. Could you
25 turn to page 6 of your testimony, please?

1 A I'm there.

2 Q Okay. What you're discussing at page 6 is
3 Witness Posch's testimony in which PostCom has argued
4 that the Commission should consider increasing the
5 weight limit for standard mail, for standard mail
6 so-called heavy letters, from 3.5 ounces maximum to
7 4.0 ounces maximum. Is that correct?

8 A That's correct.

9 Q In your testimony at lines 12 really through
10 22 you say that Witness Posch essentially is incorrect
11 in saying that there's no operational rationale for
12 the current maximum weight, which is 3.5 ounces, and
13 you're relying on the 3.5 ounce heavy letter field
14 evaluation report that was done I believe in 2001,
15 correct?

16 A Correct.

17 Q When you were here last time we talked a
18 little bit about that report, and I'm afraid we're
19 going to have to talk a little bit more.

20 Do you recall saying that while you did not
21 actually do the study, you were involved in the
22 preparation of the study?

23 A That's correct.

24 Q If you could tell me a little bit more about
25 what that meant? I mean, did you design the study, or

1 did you design the study with other people?

2 A My participation was at the request of
3 industry, and I believe even PostCom at the time, I
4 pushed and marshaled the resources around the
5 organization to conduct the test.

6 Now, in terms of the design and the actual
7 testing itself, I wasn't involved in that. I left
8 that up to the engineers.

9 Q Okay. So you were essentially a subhitter?

10 A Yes.

11 Q Do you have a copy of the test handy?

12 A I do, yes. I do.

13 Q Good. Would you take a look at the first
14 page of the test under the bold heading called Test
15 Plan? Do you have it?

16 A I do.

17 Q I notice that Test Deck 4 was at 3.5 ounces,
18 and Test Decks 5 and 6, which were the only two other
19 test decks done, about at 3.7 ounces.

20 Did people who designed the test, to your
21 knowledge, eliminate 3.6 ounces for any particular
22 reason?

23 A I can't say if there was some thought about
24 3.6 and 3.7. Obviously they were looking to test
25 above the request to see if in fact there's a

1 degradation above the 3.5.

2 Whether they thought an additional test deck
3 at 3.6, 3.7 -- there might have been some
4 understanding and belief when you're breaking it down
5 at that fine a level of ounces there may not be enough
6 of a difference, so it was determined to try to get an
7 accurate difference between the 3.5 and 3.7 test they
8 need to go up to that two-tenths of an ounce, but I
9 don't know for sure.

10 Q Okay. Could you turn to page 2 under the
11 heading Observations and Test Results?

12 Maybe we ought to make another point just a
13 little bit clearer just so the record doesn't get more
14 muddy than I've already made it.

15 Some of these test decks, according to the
16 test plan description, contained 100 percent of pieces
17 of a particular weight. Test Deck 3, for example, was
18 all 3.3 ounces, and Test Deck 5 was all 3.7 ounces.
19 Is that correct?

20 A Yes, that is correct.

21 Q And some of the test decks, however,
22 contained what was referred to as a mix. That is to
23 say, for example, Test Deck 6 contained one ounce
24 letters with a two percent mix of 3.7 ounce letters.

25 Now let's turn to page 2 for a moment. The

1 very first bullet up on top says, "As was expected,
2 the two percent seeded decks," including the one that
3 had 3.7 ounce pieces in it, "processed extremely well
4 and were no **cause** for concern."

5 Is that a fair characterization?

6 A That's what it says.

7 Q Okay. Do you think that that statement was
8 wrong?

9 A I have no reason to doubt the statement.
10 No.

11 Q Do you have any idea where the two percent
12 number came from?

13 A My guess is that it was an attempt to
14 reflect a downstream operation after you would induct
15 a 100 percent heavy letter mailing, which is what we
16 would expect in the situation

17 In most cases if at 3.5 or any limit that we
18 would expect or possibly set that maximum at you'd get
19 that 100 percent heavy letter mailing, and then after
20 it's processed say on an incoming primary it'll be
21 sprinkled through incoming secondary operations. It
22 was an attempt to understand what that would be.

23 Now, two percent. I don't know if there was
24 some science behind that, but I'm sure that's what
25 that was intended to represent.

1 Q Okay. When you were here last time we
2 discussed the question of how much volume there is at
3 let's say 3.3 to 3.5 or how much volume there might be
4 at between 3.5 and 4.0, You said that there was not a
5 lot.

6 I believe you also testified at some point
7 in this proceeding that there were 99 billion pieces
8 of automation compatible mail. Is that correct?

9 A I'd have to refresh my memory, but that
10 question could be dissected. Are you talking letters,
11 flats, a combination of both?

12 Q Letters.

13 MS. PORTONOV: Counsel, do you have
14 something he could look at where he's made that
15 statement?

16 MR. VOLNER: Well, let me try it a different
17 way because I don't want to try to overly complicate
18 this thing.

19 BY MR. VOLNER:

20 Q Do you know how many pieces of heavy letters
21 between 3.3 and 3.5 ounces are shown in the billing
22 determinants for the base year?

23 A I do not. I do not have that information
24 with me.

25 Q Will you accept subject to check that it is

1 75 million? Subject to check.

2 A Okay.

3 Q We will supply a citation for that. When
4 you prepared your rebuttal testimony and said that
5 there were likely to be severe operational concerns
6 around an increase to the maximum weight of an
7 automation compatible heavy letter, was it your
8 assumption that if the weight limit were raised there
9 would be a lot of mail that would migrate up to the
10 heavier weight?

11 A I would say my assumption would be that
12 there would certainly be some. Now, what that would
13 be I cannot estimate.

14 However, it doesn't take a large quantity in
15 volume throughout the organization to cause problems,
16 but when they do or are presented it's oftentimes
17 presented at saturation quantities even in a single
18 mailing for a single sort plan, an incoming secondary
19 sort plan. There will be significant negative
20 consequences for that particular operation.

21 You mentioned 75 million. Sprinkled across
22 sort plans throughout the 365 days of a year, that's
23 going to be a number of instances where there are
24 going to be significant consequences for a particular
25 operation.

1 Now, in the grand scheme of things in the
2 100 roughly billion pieces of automation would that be
3 considered widespread in that regard? You cannot
4 minimize the significance of those instances when they
5 do happen. They're very problematic and so to accept
6 that would be I think detrimental to operations.

7 Q Let me see if I can understand your
8 position, and that is that mail which now weighs 3.5
9 ounces, which **is** the current maximum, will migrate up
10 into the 3.5 and above range. Is that your position?

11 A Yes. Absolutely.

12 Q Okay. And that the mail that's now between
13 3.3 and 3.5 will disappear?

14 A No. There will be some. There will be a
15 distribution of pieces at weights between one-tenth of
16 an ounce all the way up to four.

17 You know, obviously some will occupy the
18 range between 3.3 and 3.5, but then you will now have
19 automation compatible letters now motivated and
20 provided incentives at the advantageous letter rates
21 to prepare their mail from 3.5 to 4.0.

22 Q I noticed in your discussion of this whole
23 question of heavy letters you did not mention
24 PostCom-T-8. That was the testimony from Money Mailer
25 or from Godfred Otuteye. Were you familiar with that

1 testimony?

2 A Yes, I'm familiar with that testimony.

3 Q Did you know that he had discussed his
4 current mix of mail?

5 A Yes. I'm aware of his testimony.

6 Q And that was predominantly, although it's
7 not actually entered at the DDU, it's predominantly
8 saturation mail, isn't it?

9 A Yes.

10 Q Do you know what percentage of his current
11 volume exceeds 3.5 ounces?

12 A I recall it's in there. He does cite it in
13 his testimony.

14 Q Would you accept subject to check that it's
15 22 percent of his current 165 million pieces? Subject
16 to check. I mean, that testimony is in the record, so
17 I don't need to provide --

18 A That's fine.

19 Q And it's your view -- I guess there are two
20 parts to this question. Part one is that all of the
21 volume that would be entered if the Commission were to
22 agree with our position that the ceiling should be
23 raised, all the volume would be in that 3.5 to 4.0
24 ounce range, and B, that every tray or every mailing
25 that came in in that 3.5 to whatever range would be of

1 uniform weight.

2 In other words, that when, for example,
3 Money Mailer or Bookspan for that matter puts a
4 mailing of heavy letters together, they all weigh 3.5
5 ounces and not a fraction of an ounce less. Is that
6 your position?

7 A No,

8 Q So that there's likely to be a mix in there,
9 isn't there, at differing weights within the same
10 mailing?

11 A It depends on the mailing. My experience,
12 and you mentioned two saturation customers. They
13 could potentially have a mix of weights within a
14 mailing, but traditionally zones -- from my experience
15 in this, zones, and this is the issue we're discussing
16 here, the weight of a mail piece going to a particular
17 zone that is then in need of delivery point
18 sequencing.

19 Typically those they do not usually target
20 by customers. Those zones will be targeted with a
21 piece that weighs over 3.5 potentially. Of course, if
22 that limit is raised there will be significant
23 additional incentives to create those pieces.

24 There will be an entire saturation mailing
25 for an individual sort plan, obviously tremendous

1 volume that would then cause significant concerns.

2 Yes, if within that mailing they had also a
3 zone that did not have the coupon or insert type
4 penetration they would then have a zone that may have
5 three ounces, and that would not be the problems that
6 would exist in the 3.7 ounce, for example.

7 Q Just so that we're clear about this, are you
8 saying that both of the mailers that I mentioned are
9 saturation mailers?

10 A Well, you mentioned --

11 Q I mentioned Bookspan and I mentioned Money
12 Mailer.

13 A Okay. I apologize. I was thinking of
14 another saturation mailer when I mentioned that, but
15 obviously Money Mailer is primarily saturation and
16 Bookspan not.

17 Q Bookspan is certainly not a saturation
18 mailer.

19 A Not a saturation. Exactly.

20 Q All right. One other set of questions
21 around this little topic for the moment.

22 The report, the study report, says that the
23 problem with that test deck which consisted entirely
24 of 100 percent 3.7 ounce letters is that it caused
25 excessive damage.

1 Let me understand something here. Is it
2 that every piece regardless of weight causes some
3 damage? Is that what that's supposed to mean,
4 excessive damage?

5 A I would not want to speculate with this. I
6 know there's another witness, Witness Laws, that has
7 more experience in this area.

8 If you have more specific questions about
9 the actual test and the results it might be one that
10 you'd want to take up with Witness Laws. This really
11 is starting to go outside of my scope, as well as my
12 understanding of that equipment and specifically the
13 results of this test.

14 Q So that you relied on the test, but you
15 really don't have a full understanding of the details
16 of what happened and what the test results mean?

17 A I'm not saying that at all, You're asking a
18 pretty specific question about the actual -- I can
19 make a pretty qualitative assessment of that
20 statement, but you're kind of getting below the
21 surface of exactly what that means and exactly what
22 the impact is on the equipment.

23 At that point I'm starting to go below
24 what's really written here and thinking that goes
25 beyond, you know, my scope of understanding of that

1 test.

2 Q Well, the words "excessive damage" appear in
3 your rebuttal testimony, don't they? Would you take a
4 look at page 6 in the quote from the study?

5 A Yes.

6 Q But you think it would be better for me to
7 talk to Witness Laws?

8 A No. I mean, if you want to know what my
9 take is on that, my interpretation of excessive
10 damages, damages exceed our acceptable levels.

11 There's no minimum level of damage that
12 can't be even quantified in terms of you have tears
13 and jams in your mail piece that is deemed by the
14 Postal Service, as well as by the people that
15 conducted this test, to be excessive such that we do
16 not want to then consequently deliver the portion of
17 volume that exceeds that damage on to customers in
18 either what we call body bags or just crumpled mail
19 pieces. That does have an impact on the equipment as
20 well.

21 Q Now, wait, Mr. McCrery.

22 A Sorry.

23 Q What this says is excessive amounts of
24 damage to the equipment. It doesn't say to the mail
25 piece.

1 A That's true. In that case then obviously
2 that particular statement is talking about damage to
3 diverter gates, belts. Sometimes that damage is
4 correctable through a maintenance intervention.
5 Sometimes it requires replacement of parts.

6 Q Should I take this up with Witness Laws?
7 What I'm trying to understand is I've got a letter.
8 It's a tenth of an ounce over the current line or
9 maybe two-tenths of an ounce over the current line.

10 It can't be a tenth because they didn't do a
11 test at 3.6. They did a test at 3.7. Two-tenths of
12 an ounce over the line that the study says doesn't
13 cause any problems at all.

14 I want to understand a little bit better,
15 and if you're not the one to talk to I'm perfectly
16 happy to come back and talk to Mr. Laws, who I believe
17 is up next week sometime.

18 I want to understand how that letter causes
19 damage to the equipment. I mean, what does it do? It
20 bangs into the conveyor belt in some fashion and tears
21 it?

22 A Well, I will first make a clarification
23 based on your statement that pieces at 3.5 cause no
24 problems whatsoever.

25 It would be nice in an ideal world to have

1 limits such that pieces up until that limit were
2 perfectly fine, perfectly fine, perfectly fine, and
3 then you cross that ounce limit and terrible,
4 terrible, terrible, but there's a point around which
5 it starts to degrade at an unacceptable level.

6 I will know for sure that the 3.5 ounce
7 limit is at a level where we know that there are
8 pieces that are prepared that are problematic, but we
9 wanted to push that, in our opinion, to be as far as
10 we could to consider the options of mailers, as well
11 as to also understand the benefits of the letter mail
12 because it does get into delivery point sequence.

13 The attempt is to move it there, but even at
14 3.5 we know that there are pieces at that limit, 3.5
15 or slightly under, that cause us problems. On a
16 whole, the mail base, if it's properly prepared in a
17 good envelope of a certain size, much of it will be
18 fine, but at some point you have to make a decision
19 that over that limit an unacceptable portion of the
20 mail base will cause problems that are defined in this
21 report and were revealed in this study.

22 Q Let me just make sure I understand your most
23 recent statement. Are you saying that the 3.5 ounce
24 line is, as far as the Postal Service is concerned,
25 immutable?

1 That is to say if we were to amend our
2 proposal or to suggest to the Commission that we would
3 be willing to accept something between 3.5 and 4.0,
4 that would still be opposed by the Postal Service?

5 A Right now our position is that what we know
6 about the equipment, 3.5 with the mix of letter
7 volumes and how they're prepared and sizes and
8 whatnot, above 3.5 is where we start to see an
9 unacceptable level of damage to the equipment, damage
10 to the mail and reductions in throughput such that in
11 our opinion it no longer makes sense to create
12 incentives for mailers to prepare those pieces as
13 letters, but rather maybe move those into a flat mail
14 stream where we have efficient equipment in that mail
15 base.

16 It's not as if you cannot prepare a 3.8
17 ounce piece. It's just that creating it as a letter
18 has negative consequences, so our position is yes,
19 right now 3.5 is as far as we feel comfortable going.

20 You know, those specifics beyond that you
21 could also bring it up with Witness Laws, but that is
22 my understanding of where we are right now and
23 Engineering's position on it.

24 Q We had a slightly different discussion the
25 last time you were here about whether letter-shaped

1 pieces that do not exceed a quarter of an inch thick
2 above 3.5 ounces are actually being processed on
3 letter sorting equipment. I think it's fair to say
4 that you said no. Is that correct?

5 MS. PORTONOVO: Counsel, can you again point
6 exactly to where you're talking about?

7 BY MR. VOLNER:

8 Q Well, if you take a look at page 3216 of the
9 transcript of my cross-examination, I will read it to
10 you.

11 What we had been talking about is whether
12 there was a mechanism for determining the weight of a
13 piece when it comes in to a Postal Service facility,
14 and you said:

15 "A Correct. There isn't any weight
16 detector or something to either reject the pieces or
17 refuse those big pieces on the machine. These
18 decisions are made through experience.

19 "Obviously too though a 3.8 ounce piece
20 would be labeled in a different manner. Then a
21 decision could be made to move that to a different
22 type of equipment, either an expanded capability
23 machine or possibly to manual by virtue of the fact
24 that it's not an automation letter."

25 So you're saying that if they see the pieces

1 labeled in a particular fashion and it's therefore
2 above the weight they are not putting it on the letter
3 sorting equipment? Is that a fair characterization of
4 that explanation you gave me?

5 A Well, first you said that my statement could
6 be characterized as saying I do not believe any of the
7 volume above 3.5 gets on letter automation. I don't
8 believe that's what that says for one.

9 I think it stands on its own right now what
10 I'm saying there. As I'll concede to Witness Otuteye,
11 it's not to say that there are potentially pieces of a
12 certain configuration that are above 3.5 that do not
13 perform well on automation.

14 But I also will say that we know of pieces
15 that are below 3.5 that do not perform well and are
16 consequently though automation letter rated have to be
17 handled either manually, maybe if we're fortunate on
18 automation flat equipment. That's the extent to which
19 we push the limit to the benefit of mailers.

20 That's not to say that just because a piece
21 that's over 3.5 absolutely is back to the hope we made
22 before that it's not so nice as to say that any weight
23 increment is either perfectly fine or perfectly bad,
24 but to suggest that some pieces potentially could be
25 fine.

1 I certainly would take exception to somebody
2 interpreting that to mean that our limit is too low.
3 Absolutely not.

4 Q Are there pieces below 3.3 that don't run
5 well on the letter sorting equipment because of the
6 quality of the envelope or because --

7 A Absolutely, yes.

8 Q Okay.

9 A Our standards are an attempt to try to make
10 sure that the pieces are prepared such that they can,
11 but there's just absolutely infinitesimal variations
12 in mail piece characteristics that you cannot capture
13 it all in mailing standards. I wish we were able to,
14 but unfortunately that allows pieces to come into the
15 system that are problematic, and obviously in a way it
16 increases the chances of the issues of being
17 problematic.

18 Q Just one last question on this line, then we
19 can move on, because you referred to Witness Otuteye's
20 testimony, which is in the record. And what you're
21 referring to is when he says that his people have seen
22 their mail that goes above 3.5 ounces being processed
23 on equipment? That's what you're referring to?

24 A Well, I'm not trying to refute. I cannot
25 substantiate or refute his claims.

1 Q Okay. Good. Let's move on to another
2 equally scintillating topic. If you would turn to
3 page 10 of your testimony?

4 MR. VOLNER: Here we have a little
5 procedural issue, Mr. Chairman. The witness at page
6 10 of his testimony is talking about the fabled NFMs,
7 which I have a number of questions about, and he has
8 cited to Witness Kingsley's testimony in R2000-1 and
9 2001-1.

10 And I have some questions about his reading
11 of that testimony. The testimony has not been
12 designated, and I certainly don't want to put the
13 Postal Service into position one way or the other. By
14 the same token, I don't intend to designate that
15 testimony, although I intend to use it now. But I
16 don't want to be accused later on of having used it
17 selectively. So I just wanted the Commission to be
18 aware that unless the Postal Service chooses to put it
19 in evidence, it's not going to be there except for the
20 parts that I use.

21 CHAIRMAN OMAS: Ms. Portonovo?

22 MS. PORTONOVO: Just a moment.

23 BY MR. VOLNER:

24 Q All right. You have invoked --

25 CHAIRMAN OMAS: Mr. Volner, can we wait

1 until we get a response on that?

2 MR. VOLNER: Sure. I'm sorry.

3 CHAIRMAN OMAS: Please.

4 MS. PORTONOVO: That's fine, Mr. Chairman.

5 We have no objection.

6 CHAIRMAN OMAS: Good. They agree with what
7 you're planning to do. You may proceed.

8 MR. VOLNER: Thank you.

9 BY MR. VOLNER:

10 Q Let me quote a passage from Witness
11 Kingsley's testimony in the 2000 rate case.

12 MS. PORTONOVO: Mr. Volner, do you have a
13 copy that he can look at while you're quoting?

14 MR. VOLNER: Well, I'm just going to read a
15 sentence. If you'd like I can show it to him. I did
16 not bring copies because I wasn't certain that you
17 were going to want to do it.

18 MS. PORTONOVO: Okay.

19 BY MR. VOLNER:

20 Q What the sentence that I'd like to explore a
21 little bit says is, "While this expanded definition
22 may reflect the physical capabilities of the FSM-1000,
23 it is not congruent with the manner in which field
24 sites are actually using the machine."

25 My question to you is what does that last

1 piece mean? Does it mean that the field is not using
2 the machine the way it's configured or the way it was
3 designed?

4 A What I interpret that to mean is that the
5 machine was designed or has the capability of
6 processing a wider range of pieces than the facility,
7 as well as delivery, has found are appropriate for
8 that piece of equipment.

9 I always say that, you know, a new APPS
10 machine can sort a business card, but we certainly do
11 not want to have a business card sorter on that
12 particular equipment. That's the automated package
13 equipment.

14 That's an example of a capability of the
15 equipment that is found to be inconsistent with what
16 we actually want to put on that piece of equipment,
17 and that's what I think Witness Kingsley is attempting
18 to say there.

19 Q So the machine was designed, for example, to
20 process pieces up to an inch and a quarter thick, but
21 that was not consistent with what Operations intended
22 to use the machine for?

23 A Well, I'm only speculating because I wasn't
24 as intimately involved in this way back in the late
25 1990s, but the design of the equipment -- the

1 equipment was designed around with the intention of
2 moving mail, flat mail that was now processed in
3 manual into a stream on a piece of equipment, so it
4 was designed with greater capabilities.

5 The actual specifications of that were
6 deemed developed through engineering testing, and
7 operational realities began to dictate what made sense
8 to put on that equipment.

9 Q Well, since you were not involved in the
10 late 1990s then you may not be able to help me with
11 this either. Were you involved at the point in which
12 the 881s were coming out of service?

13 A I was in the Postal Service at that point
14 working in an operations function, but not specific to
15 that particular effort.

16 Q But not to that particular effort?

17 A No. I wasn't involved in the
18 decommissioning of the 881s, no.

19 MR. VOLNER: Mr. Chairman, a foolish
20 consistency is the hobgoblin of petty minds. I am
21 about to change my mind.

22 We will designate portions of this testimony
23 for inclusion in the record, of Witness Kingsley's
24 testimony, because the witness has now said that he
25 really was not familiar with what was going on, and

1 rather than take him through a series of questions
2 where quite fairly he's saying I'm not familiar with
3 it, we'll just put the materials in.

4 I realize we're probably out of time, but we
5 will file it with an appropriate motion.

6 CHAIRMAN OMAS: Okay.

7 MR. VOLNER: Thank you.

8 CHAIRMAN OMAS: Thank you, Mr. Volner.

9 BY MR. VOLNER:

10 Q Let's take a little broader view since you
11 did talk about Witness Kingsley's testimony. I assume
12 you read it before you cited it?

13 A Yes.

14 Q Good. Indeed you read it before you wrote
15 your own testimony in 2005, didn't you?

16 A Absolutely, yes.

17 Q Okay. Good. Could you tell me where in
18 Witness Kingsley's testimony or for that matter in
19 your testimony in 2005 there is mention of a rigidity
20 test in application of distinguishing between flats
21 and pieces that are not going to be processed on the
22 1000 or the 100?

23 A I have to ask what makes *you* think or
24 believe that there was mention of a rigidity test?

25 MR. VOLNER: Well, I'm supposed to be asking

1 the questions.

2 Let's leave it this way. If after the
3 hearing you find a reference either in your testimony
4 or Witness Kingsley's testimony to a rigidity test,
5 would counsel be courteous enough to supply it?

6 BY MR. VOLNER:

7 Q Could you tell me where in Witness
8 Kingsley's testimony or for that matter your testimony
9 in 2005 there was mention of the fact that the UFSM
10 1000s were going to be no longer in service or put
11 into locations where they -- that is to say relocated?

12 A The discussion of the issues of FSM 1000 are
13 in my testimony about the differences of the machine
14 and the relocations of the machine.

15 Q That's your testimony in this case. What
16 I'm asking you is about your testimony in 2005.

17 A There are references, if I recall, in 2005
18 as well about the changing dynamics of the FSM 1000
19 and the fact that the discussions about the machines
20 are one thing.

21 The process on those is a completely
22 different thing. What's appropriate and deemed to be
23 appropriate to process on those pieces of equipment is
24 a different thing.

25 Q Now, that's a different subject, and I think

1 you've made that clear in the little colloquy we had
2 about Witness Kingsley's testimony that field
3 operations doesn't consider the machines appropriate
4 to be used notwithstanding its design.

5 I'm asking you a different question than
6 that, and that question is you're saying that you told
7 us in 2005 that the AFSM 1000s would be relocated.

8 A They are starting to be relocated. It's not
9 a specific program where we have a certain amount of
10 sites where they're all going to.

11 The natural inclination of our field is to
12 move those to sites where they can be more
13 appropriately used. That's what I'm saying. There's
14 been no mention of the fact that we're taking them out
15 of service.

16 Q But they've been relocated in a way that you
17 say they will no longer be used to process rigid
18 pieces of mail?

19 A They'll no longer be used when those
20 situations occur as a reject processor of an AFSM 100.
21 If they're moved away from that site, that machine
22 would no longer --

23 Q Okay. That's what I wanted to know. Now
24 let's go to page 12 of your testimony for a few
25 moments, please.

1 Q Page 12?

2 A Yes.

3 Q You referred to the mailing statements that
4 were published in the *Federal Register* on
5 September 27, and you say that, "Additional clarifying
6 language could be added within the final rule, but we
7 do not expect the final standards to be more
8 restrictive."

9 More restrictive than what? Than the
10 standards as published on September 27 or more
11 restrictive than the standards that were used when the
12 rate case was filed?

13 A Of September 27.

14 Q Okay. Good. Do you recall when you were
15 here last time and you and I had a little discussion
16 about Library Reference 33?

17 A If you have the reference it would help.

18 Q It was the library reference submitted by
19 Witness Loetscher which described his study concerning
20 the development of **NFMs** and --

21 A I'm familiar with that, yes.

22 Q You are familiar with it. Do you have a
23 copy with you by any chance?

24 A I do not actually.

25 Q Well, let me try it a slightly different

1 way. Were you involved in the preparation of the
2 mailing standards that were published on February 27
3 (sic)?

4 A I did not write those standards, but I was
5 certainly involved in the preparation.

6 MS. PORTONOVO: Counsel, did you mean
7 September 27?

8 MR. VOLNER: I said September 27, didn't I?

9 MS. PORTONOVO: No. You said February 27.

10 MR. VOLNER: I'm sorry. September 27.

11 BY MR. VOLNER:

12 Q Did you write those standards?

13 A I did not write those standards.

14 Q You had input into what the standards
15 contained?

16 A I had.

17 Q You had input into Witness Loetscher's
18 definitions that he used in his study? I believe you
19 told us that when you were here last time.

20 A Yes. Per my oversight, as well as direct
21 involvement, yes.

22 Q Direct involvement as well as oversight?

23 A Yes, as well as management of my staff. My
24 staff, yes.

25 Q I'm trying to understand what happened

1 between the filing of the testimony and the
2 preparation of the standards. If you're not the right
3 witness, I guess I'll just have to try some other way.

4 Witness Loetscher, will you accept subject
5 to check, says that in the definition of automation
6 flats, and I'm quoting just one sentence, "The maximum
7 rigidity requirement will replace the current
8 deflection test." Do you recall him saying that?

9 A Yes, I recall.

10 Q Do you recall the mailing standards that
11 were issued on September 27 contain a deflection test?

12 A The maximum deflection, the maximum rigidity
13 or flexibility text. Yes, it does.

14 Q Well, there's two different tests, aren't
15 there? I'm not an engineer, so you're going to have
16 to help me here.

17 A Describe what you mean. The two different
18 tests?

19 Q Well, there's maximum rigidity, and then
20 there's maximum deflection or what we call droop.

21 A Droop, yes. They're both --

22 Q They're both in the proposed rule?

23 A Yes.

24 Q But they were not in his definition, were
25 they?

1 A He had the maximum deflection or rigidity
2 test in his test, yes.

3 Q Let me read the sentence again. "The
4 maximum rigidity requirement will replace the current
5 deflection test."

6 A Okay. If you're referring to the deflection
7 test just between the arcs, his test, as well as
8 what's in the proposed standard for maximum deflection
9 or rigidity, is consistent with what he used.

10 Q The rigidity part is there. The deflection
11 part was not what he used.

12 A Correct. From what I remember, yes.
13 Correct.

14 Q Can you tell me, and again if you're not the
15 right witness say so. A piece that flunks the droop
16 test, what category does it fall into? Is it a
17 nonautomation flat, or is it an NFM?

18 A Today it's an automation flat.

19 Q And what will it be tomorrow?

20 A If it flunks the droop test tomorrow it will
21 be a nonautomation flat, from what I understand. Yes.
22 I'm almost certain that's the case. It will not be an
23 NFM. It would be a nonautomation flat.

24 Q It would not be an NFM. There is a droop
25 test today, isn't there?

1 A Yes. As I said, if you fail it you're just
2 an FSM 1000 automation flat, so in theory you could
3 argue it really doesn't exist.

4 Q Okay.

5 A Do you understand that?

6 Q That's fine.

7 A It's still an automation flat if you fail
8 that test. You get in your 1000, your FSM 1000.

9 Q Now, Witness Loetscher had some definitions
10 of a hybrid flat and a hybrid parcel. When he was
11 here yesterday, Witness Kiefer seemed to suggest that
12 those definitions have gone away. Is that correct?
13 Was that an operational decision?

14 A Well, Witness Kiefer I'm sure had some
15 insight on that as well between the time that the test
16 was conducted and the time it was decided how best to
17 implement the NFM category for the benefit and ease of
18 mailers to understand and mark and all that. It was
19 decided to not make that distinction explicitly in
20 either preparation or marking.

21 That doesn't mean that we can't still
22 collect information about that based on those
23 different breakdowns in our data systems if we feel
24 that's an appropriate way to understand what the
25 differences are, but in terms of as an appropriate way

1 to implement that for the benefit of customers,
2 between the time the test was conducted --

3 And that's not to say that the test was
4 conducted with the absolute certainty that that was
5 what we thought we were going to propose, but between
6 the test it was determined that a differentiation
7 between NFM flats and NFM parcels or hybrid flats and
8 hybrid parcels would not be explicitly defined in
9 preparation or marking.

10 Q So that at least for the time being the
11 whole question of whether the piece can be cased or
12 not is no longer a part of the definition of what
13 constitutes an NFM?

14 A No, it's not. That test was both
15 categorized, and that is a hybrid piece even under Mr.
16 Loetscher's testimony.

17 Q But there's a significant difference between
18 hybrid flats and hybrid parcels, and a number of
19 witnesses, of which I believe you were one, made the
20 point that the hybrid category was a transitional
21 category.

22 A Uh-huh.

23 Q I've asked on a number of occasions, and
24 I'll ask you now directly. Is it the Postal Service's
25 plan now to completely migrate everything that is now

1 categorized as an NFM into parcels, or is the
2 distinction between hybrid parcels and hybrid flats
3 going to dictate what part of the NFM category
4 disappears at some point in time?

5 A I would believe that your latter part of
6 your statement is potentially the most appropriate way
7 to characterize it.

8 That the distinctions around caseability, as
9 well as the other potential cost benefits of the
10 thinner pieces in terms of their parcels, in some way
11 have some advantageous characteristics of caseability
12 and delivery that may result in a category that could
13 have longer life than say a hybrid parcel, which is
14 intended to protect or transition those parcel type
15 pieces, thicker items, out of flats and into parcels
16 or, more appropriately, hopefully into flats,
17 automation flats, if they can reconfigure their
18 pieces.

19 Q We're going to talk about reconfiguration at
20 the very end, but I want to take up one other part to
21 this exercise for a moment.

22 Are you aware that the proposed mailing
23 standard rules draw a distinction between pieces
24 weighing more than six ounces and pieces weighing less
25 than six ounces?

1 A Yes, I'm aware of that. Yes.

2 Q And are you aware that in terms of NFMs the
3 proposed mailing standard rules make a BMC sort
4 mandatory?

5 A For the over six ounces, yes.

6 Q And are you aware of the fact or will you
7 accept subject to check that there is no BMC rate for
8 NFM?

9 A There will be. One of the rates that's on
10 the schedule will be applied to those.

11 Q That's the same answer I got yesterday from
12 Mr. Kiefer. That's very helpful.

13 Let me ask you some operational questions.
14 I don't want to start with incoming secondary and
15 incoming primary. I've never understood what those
16 words mean anyway.

17 Let us suppose hypothetically that I have
18 two separate mails. They are NFM. One of them weighs
19 more than six ounces and is sorted to three digits.
20 I'm sorry. More than six ounces and sorted to BMC as
21 required. The other one weighs less than six ounces
22 and is sorted to three digit as permitted under the
23 proposal. Isn't that correct?

24 A Yes.

25 Q Which one of those two requires more manual

1 processing by Operations?

2 A The over six ounce pieces are intended on
3 the BMC side to be processed on the PSMs, and the six
4 ounces is consistent with the capabilities of that
5 equipment.

6 The under six ounces are designed around the
7 capability to use small parcel sorting operations,
8 either SPBSs or APPS machines. The BMC sort has
9 mechanized capabilities that all BMCs and some of the
10 ASFs, there's some manual there. The three digit sort
11 targeted SPBSs and APPS machines, which are at most of
12 our plants.

13 To answer your question, the portion that's
14 manual in the BMC/ASF side for those particular sites
15 that do not have automation or mechanization versus
16 the plant side, it may be actually pretty close in
17 terms of --

18 Q That's excellent. Now let's yo back to the
19 machines again. If I give you a piece that's sorted
20 to BMC over six ounces -- not a piece of mail -- the
21 parcel sorting machine will take it down to what level
22 of sort.

23 A The PSMs?

24 Q Yes.

25 A Yes. The PSMs, most of the volume is taken

1 down to a five digit level.

2 Q And does it do that when I've given you a
3 BMC sort in one pass or in two passes?

4 A With a BMC sort it's one or two passes,
5 depending on the configuration of the BMC.

6 When I say it takes it down to five, in some
7 of the cases it's discharged onto a slide where
8 manually it has to be then finished into a five digit
9 bag. It's unfortunately not all completely mechanized
10 or automated, but for the most part most of the volume
11 is sorted to five.

12 Some is then sorted to a plant for further
13 manual distribution, but much of the volume in the BMC
14 with one or two passes, depending on the
15 configuration, is sorted to five.

16 Q Now, a little while ago you said that if I
17 gave you the pieces of less than six ounces sorted to
18 three digit those would be put on an APPS or -- I hate
19 that acronym -- SPBS, small parcels bundle sorter. Is
20 that the correct use of that term?

21 A Yes,

22 Q Good. How many passes does it take on an
23 APPS machine or a **SPBS** to get a three digit sort down
24 to five?

25 A Typically one.

1 Q Typically one?

2 A Yes.

3 Q With a piece of less than six ounces, will
4 you stop at five, or will you take it down to carrier
5 route level?

6 A No. You would stop at the five digit.
7 Sometimes the SPBS does require second passes or
8 manual as well, very similar to the PSMs. The
9 machines are typically not configured to be able to
10 sort to every five, just the heavy hitters, and then
11 you may have some manual work on that.

12 To answer your question, it does stop at the
13 five digit level. There's not carrier route sortation
14 currently on an SPBS, nor is it on a PSM and BMC.
15 Parcels are then manually distributed to carriers at
16 the delivery unit.

17 Q Do you know of any other class, parcel class
18 in particular, parcel related class, in which a
19 discount is provided for three digit sort?

20 A Nonmachinable or now what they're called is
21 irregulars, IPP.

22 Q Irregulars?

23 A Yes.

24 Q We have a piece. This is an NFM. It's
25 let's say less than three-quarters of an inch thick.

1 It is nonmachinable by reason of weight.

2 A Yes.

3 Q Do you know of any other class of mail or
4 subclass in which sortation to three digits is
5 contemplated?

6 A Is? Pardon me?

7 Q Is discounted, is incented.

8 A I mentioned the IPP or the irregular parcels
9 in standard mail are discounted at the three digit
10 level.

11 Q But those by definition are not going to run
12 either on the APPS or the SPBS, are they?

13 A No, that's not true. They are again defined
14 as pieces in standard mail that are below six ounces.

15 Q No. Let me try it again. I'm sorry. I
16 didn't mean to interrupt you, but I think we're going
17 to get confused, and that's going to complicate
18 things.

19 I'm assuming a piece that otherwise meets
20 the definition. It's rectangular. It has uniform
21 thickness. It would otherwise have met the definition
22 of an AFSM 100 flat but for rigidity. Take that piece
23 as a hypothetical.

24 A Okay.

25 Q Is there any other category where three

1 digit sortation is encouraged for that kind of a
2 piece?

3 A I will say again that piece --

4 Q Treating it as a parcel.

5 A That piece, a rigid item defined in the way
6 that you've defined that, say that it's four ounces.
7 That is considered and certainly can be considered a
8 regular parcel today or "nonmachinable" parcel in the
9 future and can receive a discount at the three digit
10 level prepared as a regular today or nonmachinable
11 tomorrow.

12 Nonmachinable in the future world, if I had
13 my say on what that was called I may pick a different
14 name. I didn't name it, but when it is nonmachinable
15 that doesn't mean that we're not going to do our best
16 to get that on a piece of equipment, whether it be an
17 SPBS or APPS, that has capabilities in some case to go
18 down to two ounces for capability for that equipment.

19 Q That raises another question about this six
20 ounce rule, the division between six and less than six
21 ounces.

22 Are you aware of a provision of the DMM that
23 provides that special exceptions can be made for
24 pieces that don't otherwise meet the machinability
25 criteria?

1 A Vaguely. I would not be able to recite it
2 or anything as far as specificity on what that says,
3 but if it does have certain characteristics it might
4 be an opportunity I believe to still be deemed
5 machinable.

6 Q Do you know how that procedure operates to
7 get it deemed machinable?

8 A At one time, if I recall, you would bring
9 it. One or more **BMCs** would look at it. I believe now
10 they're trying to conduct some of the testing more
11 centralized so we get more of a consistent ruling type
12 of a thing. Yes, you would run samples of that volume
13 to see what the performance would be.

14 Q Do you know how many of those special
15 exceptions have been granted?

16 A I do not.

17 Q Do you have any idea how much volume is
18 under those special exceptions?

19 A I do not know. I really don't.

20 Q Let's go to the last topic. Could you turn
21 to page 11 of your testimony?

22 You're talking there about the question of
23 the desirability of providing incentive to modify mail
24 pieces to be more compatible with Postal processing
25 and delivery at lines 13 and 14.

1 A I'm with you.

2 Q On page 12 of your testimony you discuss
3 some examples of the kinds of modifications that might
4 be made.

5 I guess my question is this. Is there a
6 formal process by which I can go to the Postal Service
7 and say look, I'm thinking about changing my packaging
8 because I would like to stay in the automation
9 category if at all possible. Will this packaging meet
10 the criteria? Is there a formal process for that?

11 A We recently have established a team of
12 individuals, as I've mentioned, from various functions
13 to try to work with customers that are attempting to
14 do that.

15 We have a central point of contact that you
16 can work through and product development to start that
17 process and marshaling the resources of operations and
18 engineering and mailing standards to first evaluate
19 the pieces, any prototypes against the standard that
20 we propose.

21 I've always said that it's not necessarily
22 the best just to meet the standards, but also for both
23 combined best interests to make sure that they process
24 well, and so, yes, there is a process for that.

25 That process is actually not quite as

1 defined. It's been out there for any customer with
2 the signals that have been out there that NFMs or not
3 rigid pieces and flats would not be something that
4 we'd want to accept for much longer has always been
5 out there for a customer interested in remaining in
6 automation flats, but now with the peaked interest, so
7 to speak, based on our proposal that's even been more
8 formalized.

9 Q Formalized and made public in what fashion?

10 A We've made that public. We've worked
11 through associations and PostCom to let them know that
12 we have this opportunity out there.

13 It's pretty well understood that anybody
14 that has voiced any concerns and that we have
15 identified -- we don't unfortunately have complete
16 knowledge of all the circumstances out there of
17 customers that are interested in this, but if they've
18 expressed any interest to the Postal Service we've
19 funneled them through this process.

20 Q I hope my client is not listening. Would
21 you recognize that not everybody reads the PostCom
22 bulletin or gets it?

23 A I hate to think that, but --

24 Q Well, I know he hates to think it. Let me
25 put it a slightly different way.

1 A Yes.

2 Q Even those of us who get it don't always
3 read it, do we?

4 A I pretty well read it, but, no, I would
5 understand that some may not read it.

6 Q And unfortunately not everybody who is
7 potentially affected, I think as you just said, would
8 be a subscriber to the PostCom bulletin.

9 What I'm really asking is is there a
10 provision in the DMM that says if you want to have
11 your package reconsidered for reconfiguration this is
12 what you should do?

13 A DMM? NO.

14 Q Has there been a DMM advisory that says Mr.
15 McCrery and his team are available to help you?

16 A It's not my team, but --

17 Q Well, Mr. McCrery or whoever the team is.

18 A I can't say for sure about that. I know
19 it's been messaged and communicated through the sales
20 function to try to reach out on that. The DMM
21 advisory may not be a bad idea as a way to do that.

22 One thing to point out would be that a
23 customer that's in this configuration, it's not
24 assumed that they would be interested in converting so
25 if they have not reached out from us they may plan to

1 avail themselves to the easier prep associated with
2 **NFMs** without a need to convert so it's not an
3 assumption that anybody in this situation is looking
4 to convert, but your suggestion of a different channel
5 to reach out, that potentially could be an appropriate
6 way to do that.

7 Q You say on page 12, line 18, "For example,
8 customers mailing flexible content are finding it
9 simply a matter of removing the contents from a box
10 and placing them in an envelope or within a poly
11 wrap."

12 Can you tell us how many letters or how many
13 repackaging proposals you have considered to date?

14 A Again, I'm only part of that team and they
15 don't come through me, but I know that there's been or
16 I'm at least aware of approximately a half a dozen
17 different companies that have at this point initiated
18 that process.

19 Q All right. My final set of questions. On
20 page 12, line 3, you say:

21 "It is the preference of Postal Service
22 Operations that customers have strong incentives to
23 seek out mailing options that are significantly less
24 costly within the Postal mail stream; for example,
25 automation compatible flats."

1 The first thing that has me a little bit
2 puzzled about that statement is the last time I
3 checked Postal Service Operations was a part of the
4 Postal Service. Isn't it still?

5 A Yes.

6 Q So what you're saying is it's the Postal
7 Service's preference that customers have strong
8 incentives to seek the least costly options to the
9 Postal Service?

10 A I would have to agree with that. My point
11 of that would be in terms of Operations' preferences
12 there, Operations is involved based on their
13 experiences in the rate making process.

14 Obviously we're a witness, and to have our
15 voice to say what are the incentives that are existing
16 out there doing today to Operations and where would
17 they be more appropriately applied to create a more
18 efficient mail stream, and so that was my point there.

19 Yes, consequently if the Operations function
20 pushes for that, assuming there's not resistance in a
21 different part of the organization where consensus
22 would result in something different, yes, I could say
23 that that is also an incentive, a general incentive or
24 general motivation of the Postal Service, yes.

25 Q But you say that part of the incentive, on

1 line 7, is that they would exercise the lower priced
2 options by converting if they were to determine that
3 the NFM rates were too high.

4 You're not suggesting, are you, some
5 disagreement between Witness Kiefer's desire to
6 mitigate the rate impact and that of Postal Service
7 Operations, are you? I mean, you're not trying to
8 testify as a pricing witness, are you?

9 A No, absolutely not.

10 Q Good. So you would not take issue with
11 Witness Kiefer's development of the rates for **NFMs** and
12 for standard parcels?

13 A No, I would not take exception to that.

14 MR. VOLNER: Mr. Chairman, that concludes my
15 cross-examination.

16 **If** I may be permitted one second? Two
17 seconds. We have learned that the Association of
18 Nonprofit Mailers and the Magazine Publishers
19 Association have no questions for Mr. McCrery, so I
20 can get out **of** the way.

21 It is very probable that this will be my
22 last time badgering you in this case because I don't
23 think I have any more cross-examination for other
24 witnesses, and **I** am told that by the next time I
25 darken these doors we will have a new chairman.

1 I just wanted you to know that it has been a
2 privilege to appear before you, and we appreciate your
3 courtesy and your patience in dealing with what is
4 unquestionably an unruly crew. I will include myself
5 in that category.

6 CHAIRMAN OMAS: Thank you very much. It's
7 been my pleasure.

8 THE WITNESS: I'm honored that I was your
9 last witness.

10 (Laughter)

11 CHAIRMAN OMAS: That brings us to Mr.
12 Costich

13 MR. COSTICH: Thank you, Mr. Chairman.

14 CROSS-EXAMINATION

15 BY MR. COSTICH:

16 Q Good morning, Mr. McCrery.

17 A Good morning.

18 Q I'd like to go back to the heavy letter
19 field test and try again to get some sense of what
20 damage occurred with the 3.7 ounce decks. Does damage
21 mean breakage?

22 A Are you referring to equipment damage or
23 mail piece damage?

24 Q Equipment damage is I think the only thing
25 mentioned.

1 A Yes. Yes, you're right. When you do have
2 jams there is mail piece damage too almost always in
3 that as well, so there's jam information here as well
4 that also equates to damage.

5 On the equipment side, I would have to defer
6 to Witness Laws for the specificity of all of that,
7 but I do know from my experiences in the field when
8 you do have stresses on the equipment you can have
9 belts that come off the different rollers. You can
10 have diverter cracks and breaks that force you to
11 bring the machine down to replace those parts.

12 Yes, it's a combination of, as I mentioned
13 before, maintenance that these suggest readjust and
14 replace or put back belts to get the machine going,
15 and it also can create actual damage that needs to
16 have replacement parts, a combination of those two.

17 Q Those are common occurrences, aren't they?

18 A Yes. They happen routinely over the course
19 of any operating tour.

20 The intention and the goals and objectives
21 of the organization, as well as Maintenance and
22 Operations, is to minimize that because any of that
23 down time is very detrimental to the operating windows
24 and clearance times, but there are maintenance
25 intervention requirements on a routine basis, yes.

1 Q The statement about excessive amounts of
2 damage to the equipment. Do you know which pieces of
3 equipment were damaged?

4 A This was the DBCS and the CSBCS. Those
5 equipment that were used in the test is what this was
6 referring to.

7 Q So you don't know whether it was just the
8 carrier bar code sorter or --

9 A DBCS? No, I do not. I do not know that
10 level of detail.

11 Q The data for this test were collected in the
12 spring of 1999? Is that correct?

13 A Let me refresh my memory.

14 Q Yes. It's on the first page at the end of
15 the first paragraph.

16 A Yes. Yes.

17 Q And there's no more recent information about
18 how the equipment deals with heavier weight pieces?

19 A There hasn't been modifications to the base
20 DBCS fleet that would necessitate any or that would
21 lead anyone to believe that these results are still
22 not appropriate.

23 The actual design of the feed and transport
24 system of the base DBCS machine is the same such that
25 there would be no reason to believe that if you

1 replicated this test today the results would be any
2 different, so, no, there is not more recent data.

3 If there is significant modifications such
4 that you feel it necessary then that ~~may~~ be the case,
5 but not yet.

6 Q Is there a procedure for the field to report
7 specific problems with the machines?

8 A This is a Maintenance question. I know they
9 have maintenance systems around which that information
10 is captured.

11 To the extent that it's rolled up, I don't
12 know all of that, but I know the information is
13 recorded on some level. How accessible it is or how
14 it can be parsed out or anything like that, I'm not
15 sure. That's not my area of expertise.

16 Q So you're not aware of any change in the
17 frequency of reports of difficulties with heavier
18 weight letters?

19 A No. No, I'm not.

20 Q Since the spring of 1999, have there been
21 any improvements in the materials that go into the
22 parts of the DBCS?

23 A I can't answer that. I don't know for sure
24 if there's been changes in the materials that are used
25 to create belts or diverter gates and things like

1 that. I don't know for sure.

2 As I mentioned to Mr. Volner, we do have
3 Witness Laws on the schedule here in the next week
4 that is responsible for letter mail technology, and
5 that would be an appropriate question for Mr. Laws.

6 Q On page 6, lines 22 and 23, of your
7 testimony you mention no changes to the base DBCS
8 equipment fleet. When you say base DBCS, what does
9 that refer to?

10 A The base fleet would be the base technology
11 around the 5,000 plus machines. I think you're
12 alluding to the modification on a limited number of
13 pieces of equipment, the EC MOD, but on the base MOD
14 the base machine is what I'm referring to, the other
15 non EC machines. It's essentially the same
16 technology.

17 Q So there's only two types of DBCSs?

18 A No. There's various phases of when we
19 procured those. Again, the same basic structure or
20 design of that equipment is not drastically different
21 from what it was in 1999.

22 Q But some of the base DBCSs have been
23 procured since then?

24 A Yes, and modified since then. A limited
25 number.

1 Q Could you look at the top of page 7 of your
2 testimony?

3 A I'm there. Yes.

4 Q You refer to the 617 EC machines. That
5 number is for the middle of 2007?

6 A Yes. That's when the final modified and new
7 machines will be in service.

8 Q And there won't be any more say through the
9 end of the test year?

10 A No.

11 Q Could you look at lines 9 and 10 on that
12 same page?

13 A Okay.

14 Q You're discussing the function of the EC
15 machines and you say, "They process thicker and
16 heavier outgoing single piece letters that are culled
17 from the collection mail stream."

18 How is that culling done?

19 A It happens on the 010, what we call the mail
20 prep, the collection mail prep area of Postal
21 Operations where the volume is moved through a dual
22 pass rough cull or culled off of the AFCSS if it's too
23 thick or deemed to be outside the range of letter mail
24 characteristics that automation can currently handle
25 and is moved and rejected off, then faced up, canceled

1 if necessary and then trayed up and moved over to a
2 DBCS EC if they have one in that particular facility.

3 Q If a letter is within all the dimensional
4 requirements to make it through the AFCS, even if it
5 weighs four ounces or somewhere between 3.5 and 4.0
6 would it necessarily go over to the EC machines?

7 A If it was constructed in a manner that would
8 allow it to go through the AFCS machine, and obviously
9 we're talking about small volumes of letters in the
10 collection mail stream.

11 If it does have characteristics other than
12 weight that would allow it to remain in the AFCS
13 equipment, no, it would not be culled at that point
14 It would remain in a letter automation mail stream.

15 Assuming it doesn't reject due to the
16 difficulty that heavy letters pose in some cases --
17 when they're mixed they're better. As was indicated
18 in that test, they would remain on a standard DBCS
19 piece of equipment with the letter mail flow.

20 Q So the problem would come from presort
21 pieces that were all between 3.5 and 4.0?

22 A As indicated in that study, once again the
23 decks with 100 percent heavy letters are the ones that
24 were the ones that were really quite problematic, and
25 that would be, of course, in a presorted or an

1 automation mail stream, yes.

2 MR. COSTICH: That's all I have, Mr.
3 Chairman.

4 CHAIRMAN OMAS: Thank you, Mr. Costich.

5 Is there anyone else who wishes to cross-
6 examine Witness McCrery?

7 (No response.)

8 CHAIRMAN OMAS: Questions from the bench?
9 Commissioner Hammond?

10 COMMISSIONER HAMMOND: Thank you, Mr.
11 Chairman.

12 I have one question. I know that this
13 probably won't make a whole lot of headlines whenever
14 we put out our recommendation to the Board of
15 Governors, but we have before us a legitimate request
16 to recommend that basically heavy letters of four
17 ounces be allowed instead of the current 3.5 ounces.

18 I know your contention on the problems that
19 it would cause. That's what your testimony has been
20 all about. It certainly seems that if we recommended
21 a heavier weight piece that we might even be wrecking
22 havoc on the equipment in your facilities all over the
23 country and cause a tremendous amount of problems --
24 backups, delays and all that kind of stuff.

25 The Postal Service seems to have spent a lot

1 of time investigating, testing, pondering all the
2 problems this increase in weight would cause, but what
3 I'm wondering, since this is a legitimate request from
4 a valid component of the mailing industry and since
5 the Postal Service's future relies upon growing the
6 mail, and certainly the Board of Governors and the
7 Postmaster General have discussed that that's your
8 main goal forever.

9 Did you spend any time or as much time
10 trying to test whether this request could be somehow
11 accommodated? I mean, I have read a lot about all
12 that the Postal Service invested in trying to prove
13 the damage by increasing this, but did anyone sit
14 there and say well, let's see how we could accommodate
15 this?

16 Was time and effort and money put into
17 testing to say hey, what if we bought new equipment
18 that accommodated four ounce, for instance? I mean,
19 did you spend time doing that also?

20 THE WITNESS: This is also a question also
21 for Engineering as well.

22 I don't want to keep putting Mr. Laws on the
23 spot, but from my understanding of the process, you
24 know, we do have over 5,000 pieces of equipment that
25 were designed around -- actually designed around some

1 below 3.5, but found, as I mentioned before, that we
2 could live with the performance of pieces on average
3 at the 3.5 ounce limit knowing that some pieces are
4 problematic even below that weight. That's certainly
5 not to say that every single piece over it is
6 problematic. It was deemed that that is an
7 appropriate limit.

8 Now, to change the actual equipment fleet in
9 a manner that would accommodate heavier letters in a
10 manner that the EC machine does today as well for a
11 limited amount of mail that's in the collection mail
12 stream is a very expensive venture and so that would
13 have to be a very significant investment.

14 From what I know about a capital investment
15 process, the return on that -- I can't even imagine
16 that the return that we would get on the additional
17 flat/letter differential that we would achieve on this
18 in terms of additional revenue would even come close
19 to the return on that investment and so it would seem
20 to be, without studying that, a very questionable
21 economic investment to do that.

22 Now, that's the question that you
23 specifically asked about modifying the fleet of
24 equipment to accommodate heavier letters to the tune
25 of all 5,200 machines. Now, the other minor

1 accommodations that we make, we always try to do that
2 with the understanding that some heavier letters make
3 it into the system through the collection mail stream
4 and otherwise to make sure that they do not damage the
5 equipment.

6 To do something that could really alter that
7 piece of equipment in a substantial way would be a
8 pretty sizeable investment and so right now there have
9 not been any indications that that would be an
10 appropriate course of action to take right now.

11 COMMISSIONER HAMMOND: Thank you. I was
12 just wanting to get an idea for the record what you
13 had done because we are going to have to make a
14 specific recommendation, and I've come to no
15 conclusion. I don't believe any of us have yet, but I
16 wanted to see whether you had spent the time for that.

17 THE WITNESS: I will also add, if you don't
18 mind, when I approached this back at this level and
19 when I was involved in the earlier test I do recognize
20 the benefit of allowing letters on our base fleet of
21 equipment to the extent to which they are appropriate
22 because letters do have favorable cost characteristics
23 and so we do want to be as accommodating as possible
24 in that regard, and we do want to be able to provide
55 opportunities to grow the mail.

1 We know that additional inserts and various
2 examples is a multiplier effect. There's benefits
3 there, so we did. We actually could argue we pushed
4 the limits for those reasons.

5 Our intent was to be as accommodating as
6 possible, but we did not want to go so far as to be
7 responsible for the mail population, the mail base as
8 a whole, because we can have consequences that will be
9 detrimental to everybody if we are in fact damaging
10 the equipment, creating down time, jams.

11 When you jam you almost always catch another
12 couple pieces into that jam and damage that mail as
13 well. It runs up against it in the back and goes very
14 fast down that channel. You damage other mail.

15 Clearly the heavier letter pieces right now
16 are damaging other mail more likely than other types
17 of mail, so we need to be considerate of other
18 people's mailings as well because we certainly will
19 increase the chances and the instances of other mail
20 damage if we go above 3.5 as well as we would increase
21 the damage certainly on the equipment itself.

22 COMMISSIONER HAMMOND: Thank you for that
23 information. You've been very thorough in everything
24 that you've given us. and I appreciate that.

25 THE WITNESS: I appreciate it.

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1 COMMISSIONER HAMMOND: That's all I had, Mr.
2 Chairman. Thank you.

3 CHAIRMAN OMAS: I concur with Commissioner
4 Hammond. We do appreciate your cooperation and your
5 candidness. I think I said that to you when you
6 testified the first time around

7 THE WITNESS: I appreciate that, Mr.
8 Chairman.

9 CHAIRMAN OMAS: We do appreciate that, but
10 you're not off the hook yet.

11 THE WITNESS: Okay.

12 CHAIRMAN OMAS: Commissioner Tisdale would
13 like to ask a question.

14 VICE CHAIRMAN TISDALE: I have a couple of
15 questions not so much regarding what you testified
16 today, but to one of the previous questions from the
17 Magazine Publishers. It was Question T42-21(b).

18 THE WITNESS: Do you want me to pull that
19 out?

20 VICE CHAIRMAN TISDALE: Do you have that
21 with you? Sure.

22 THE WITNESS: Sure. MPA you mentioned?

23 VICE CHAIRMAN TISDALE: MPA, **yes**.

24 THE WITNESS: Okay. T42-21? All right.
25 I'm there.

1 VICE CHAIRMAN TISDALE: Okay. 21(b) .

2 THE WITNESS: This is for a representative
3 AFSM 100 in today's operating environment. "Please
4 provide a list and description of all sort schemes run
5 on the machine during a single 24-hour period."

6 VICE CHAIRMAN TISDALE: Yes.

7 THE WITNESS: Yes.

8 VICE CHAIRMAN TISDALE: Is it possible that
9 you could provide the Commission with similar end run
10 summaries for other cost pools from that same
11 facility?

12 THE WITNESS: We could provide additional
13 information out of the EOR system. This just happens
14 to be for an AFSM 100. We certainly could provide
15 other end-of-run type information for delivery bar
16 code sorters and other types of equipment that is in
17 that facility, yes. Sure.

18 VICE CHAIRMAN TISDALE: If you could do
19 that, that would be appreciated.

20 THE WITNESS: Would you like --

21 VICE CHAIRMAN TISDALE: Just things like the
22 face counts for the OCR.

23 THE WITNESS: Yes. There's limits in the
24 productivity type operations that this system tracks.
25 To the extent to which it does track it, this would be

1 recent data.

2 We could provide recent data for the 100 as
3 well so it could be a comparative purpose maybe across
4 a certain day, a given day.

5 VICE CHAIRMAN TISDALE: That would be fine
6 if it's all the same day.

7 THE WITNESS: Okay. Yes.

8 VICE CHAIRMAN TISDALE: Also I'd like to ask
9 you something else about the chart that you provided
10 It describes managed mail at the beginning parts of
11 the chart.

12 THE WITNESS: Are you referring to this
13 chart right here? Yes. Okay.

14 VICE CHAIRMAN TISDALE: Can you explain to
15 us what managed mail is?

16 THE WITNESS: Managed mail is also sometimes
17 referred to as ADC. Managed mail is in some ways
18 maybe a dated terminology, but customers prepare mail
19 for a region and call it ADC. When we prepare that
20 mail for our destination facility we often call it
21 managed mail.

22 You have a volume that we sort at origin
23 We may sort it to a five digit to a destination if
24 it's a heavy volume or a three digit, but more likely
25 we sort that to a plant. Flats we often sort it to

1 ADC and for letters we sort to AADC, a little bit
2 finer because we have more separations on our
3 equipment.

4 When we do that, when we sort volume at our
5 origin to a destination, we often call that managed
6 mail.

7 VICE CHAIRMAN TISDALE: Okay. How does the
8 scheme for managed mail differ from the other sort
9 schemes?

10 THE WITNESS: The scheme for managed mail
11 would then be able to accommodate a larger geographic
12 region and additional three digits, so it would have
13 to -- for example, a managed mail program in northern
14 Virginia in Merrifield would be able to accommodate
15 its entire service area if it's an ADC, which would
16 include Culpepper, Virginia, and Winchester, as well
17 as Dulles and Arlington and the like responsible for
18 Merrifield, but also the managed mail program would
19 have the responsibility of sorting out to the
20 geographic reach of Merrifield.

21 Chicago would be sorting volume in a managed
22 mail program for northern Virginia and include volume
23 for that northern part of Virginia in Winchester and
24 Culpepper, so when Merrifield receives that volume it
25 would be processed on a sort plan with runouts not

1 just for the big cities in the close proximity to
2 Merrifield. It would also have to accommodate volume
3 for Culpepper, Winchester and the larger geographic
4 reach.

5 VICE CHAIRMAN TISDALE: So that would
6 basically allow any plant to run mail for any other
7 plant?

8 THE WITNESS: Well, again when you're
9 running in an outgoing mode in Chicago they will divvy
10 up the volume into destinating chunks based on the
11 managed mail or ADC program for LA, southern Cal and
12 Phoenix and Denver and Atlanta, and then it would
13 receive that volume in the destination.

14 In Atlanta, for example, they would have to
15 have a volume and a sort plan capable of handling not
16 just Atlanta itself, but the northern part of Georgia,
17 that part of its managed mail ADC responsibility.

18 The ADC or managed mail program in Atlanta
19 could not just have runouts for the city zones and
20 suburbs of Atlanta. It would have to have runouts for
21 Cartersville and Athens and the cities around and the
22 locations around Atlanta as well because that's part
23 of its ADC or managed mail responsibilities.

24 It wouldn't necessarily sort volume for
25 everybody, but it sorts volume for a larger geographic

1 reach in a managed mail program opposed to a three
2 digit program.

3 VICE CHAIRMAN TISDALE: Okay. Is it
4 discretionary whether or not that mail is run in each
5 plant?

6 THE WITNESS: No. I mean, again when it
7 comes in the managed mail program it's just processed
8 on letter or flat sorting equipment to move it then to
9 a destination incoming secondary type program where it
10 can be sorted to carrier route or sequenced as letters
11 into delivery sequence order.

12 Now, it does require when it comes into a
13 managed mail program to a destination it is always,
14 unless you had an extreme circumstance, processed on a
15 piece of equipment. There's no discretion there.

16 VICE CHAIRMAN TISDALE: Okay. One other
17 thing I was wondering about. It shows productivity
18 figures on here for each machine, and it appears that
19 the managed mail sort schemes have a higher
20 productivity than the other sort schemes. Is there a
21 particular reason for that that you can think of?

22 THE WITNESS: Well, when you're sorting from
23 a managed mail program you're typically sorting just
24 to breaking it out to five digits or three digits, so
25 my speculation would be in those circumstances you

1 have a greater probability of sorting that volume in
2 an OCR mode because you do not have to read the
3 address information to get it down to carrier route.

4 For those reasons, based on the nature of
5 that sort of just sorting it from the MMP to a five
6 digit or three digit, it could be more efficient. You
7 would not have to send as many pieces to a remote
8 encoder to actually code in the address information
9 which is necessary to get it to the carrier route.

10 I would imagine for those reasons is why
11 you're seeing higher productivity on a managed mail
12 program as opposed to an incoming secondary when
13 you're trying to get that volume down to a specific
14 carrier route, for example.

15 VICE CHAIRMAN TISDALE: I understand. Thank
16 you.

17 THE WITNESS: You're welcome.

18 CHAIRMAN OMAS: Mr. McLaughlin?

19 MR. MCLAUGHLIN: Thank you, Mr. Chairman.

20 CROSS-EXAMINATION

21 BY MR. MCLAUGHLIN:

22 Q Mr. McCrery, I have some follow-up questions
23 to Commissioner Hammond's questions on behalf of the
24 Saturation Mailers Coalition.

25 As you may be aware, Money Mailer is a

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1 member of Saturation Mailers Coalition, and we have an
2 interest in not only saturation flats, but also
3 letters.

4 Mr. Hammond's questions dealt with things
5 the Postal Service might be doing to try to see if
6 there's a way of accommodating heavier letters. You
7 mentioned that there are some characteristics, some
8 types of heavy letters, that work better on the
9 equipment than others. There are some heavy letters
10 that simply really gum up the system and don't work
11 and others that can go through.

12 Does the Postal Service deal with mailers to
13 identify to mailers problems that they are having with
14 specific mailings to try to see if there are things
15 the mailers can do to reformat their piece in a way
16 that would work better on the equipment?

17 A Absolutely. We highlight the problems that
18 the pieces are having; for example, if the envelope is
19 tearing or the inserts are shifting in a manner that
20 is causing problems.

21 We certainly would also work with a customer
22 if they wanted to make modifications and test that
23 volume in a manner that our equipment and Engineering
24 or otherwise to be able to say you made adjustments
25 that are actually resulting in positive results and

1 positive improvements on your mail.

2 Yes, we would work with customers in that
3 regard. Yes.

4 Q Now, are there certain characteristics that
5 you know tend to create more problems than others?
6 For example, with envelopes you can have very thin
7 envelopes that are very lightweight paper, or you can
8 have envelopes that use a thicker stock of papers.

9 Does paper stock have an impact on the
10 processing, or are there other characteristics that
11 have greater impact on processing such that you could
12 perhaps try to either work with mailers to change
13 those or perhaps even consider regulations that would
14 allow certain kinds of mail to be processed?

15 A The way I would answer that is if we were
16 able to isolate specifically a characteristic that is
17 problematic and that characteristic was not already a
18 DMM regulation and we know that it can be measured,
19 can be interpreted by customers and can be verified in
20 acceptance, we would strongly consider making that a
21 requirement.

22 To answer your question, if there are
23 particular characteristics that are favorable or
24 detrimental to the operations, we would look to
25 isolate that and to send the signal through the

1 mailing standards that this is not what we want. We
2 want the letters prepared in an automation mailing to
3 be consistent with these standards.

4 Q And wouldn't that be beneficial to the
5 Postal Service and perhaps to mailers as well if
6 working with the industry you could try to develop
7 characteristics that maximize the automation
8 capability of heavier letters?

9 A We do that. We have heavy letter standards.
10 My point of that was to say that I believe that we do
11 that and what we have in the standards today reflect
12 that.

13 We're constantly addressing and looking, and
14 Mr. Laws and his group do that. If they find that
15 there are particular characteristics that are not part
16 of the standard through experience, and they're out in
17 plants regularly and testing pieces regularly to
18 identify the particular type of things that we're
19 talking about here. They will look to do that.

20 If a customer happens to come in and look to
21 test, and they would certainly be able to do that for
22 them and do that testing, find some particular
23 characteristics that are either positive or negative.
24 They'll look to make regulations around that to give
25 those customers those signals.

1 My point is that this is happening, and the
2 regulations for base automation letters, which are
3 pretty extensive -- that's a pretty thick section --
4 as well as specific standards around heavy letters
5 were developed for these reasons.

6 We'll continue to refine those over time as
7 we find particular characteristics that we know that
8 are either advantageous or negative.

9 Q And if you were able to come up with some
10 characteristics that would improve the processing
11 capabilities of saturation letters would you at some
12 point consider the possibility of extending the heavy
13 weight limit?

14 A Well, if there was a particular standard
15 around which we felt that the mail base in general
16 could comply to I think that we would have been
17 considering above 3.5. I think that the 3.5 is a
18 consideration of the mail base in general.

19 As I mentioned, that's not to say that some
20 mail pieces could potentially run above that or, as we
21 said, we'd know that some mail pieces below it do not
22 perform well. We think that the 3.5 is an appropriate
23 reflection of the mail base in general.

24 Q Okay. I understand that's where we're at
25 right now. I'm talking about working on to see if

1 there are additional specifications that might be able
2 to accommodate heavier letters more efficiently on
3 automation.

4 If you were able to come up with that you
5 wouldn't reject the notion of increasing the
6 threshold?

7 A If we found between a 3% x 5 and a 6 1/8 x
8 11 1/2 letter range right now. We do not believe there
9 are characteristics that are out there right now that
10 we could refine to the point where we could allow it
11 above 3.5.

12 If somehow that changes for some reason
13 based on the information, based on some other
14 information, but right now our evidence suggests
15 otherwise.

16 I guess you're saying that somehow or
17 another what we've learned and what we know up until
18 now somehow would be changed. I don't necessarily
19 anticipate that, but between the range of letter sizes
20 right now and the capabilities of customers to prepare
21 pieces of those varying ranges and sizes, 3.5 is what
22 we deem to be appropriate.

23 MR. MCLAUGHLIN: No further questions.

24 CHAIRMAN OMAS: Thank you, Mr. McLaughlin.

25 Is there anyone else who wishes to follow

1 up?

2 (No response.)

3 CHAIRMAN OMAS: There being no one else, Ms.
4 Portonovo, would you like some time with your witness?

5 MS. PORTONOVO: Yes, please. Could I have
6 10 minutes, please?

7 CHAIRMAN OMAS: Okay. Why don't we come
8 back at 11:25?

9 (Whereupon, a short recess was taken.)

10 CHAIRMAN OMAS: Ms. Portonovo?

11 MS. PORTONOVO: The Postal Service has no
12 further questions.

13 CHAIRMAN OMAS: Thank you, Ms. Portonovo.

14 Mr. McCrery, that completes your testimony
15 here today. We appreciate your contribution and your
16 appearance to the record. Again, I think we all up
17 here appreciate your candor, and we appreciate your
18 testimony. You are now excused.

19 THE WITNESS: Thank you.

20 (Witness excused.)

21 CHAIRMAN OMAS: Mr. Koetting?

22 MR. KOETTING: Thank you, Mr. Chairman. The
23 Postal Service calls as its next witness Professor
24 Michael Bradley.

25 CHAIRMAN OMAS: And Dr. Bradley has been

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1 sworn in this proceeding, so you may begin

2 Whereupon,

3 MICHAEL D. BRADLEY

4 having been previously duly sworn, was
5 recalled as a witness herein and was examined and
6 testified further as follows:

7 (The document referred to was
8 marked for identification as
9 Exhibit No. USPS-RT-4.)

10 DIRECT EXAMINATION

11 BY MR. KOETTING:

12 Q Dr. Bradley, could you please state your
13 complete name and title for the record?

14 A My name is Michael David Bradley, and I'm a
15 Professor of Economics at George Washington
16 University.

17 Q Dr. Bradley, I've handed you two copies of a
18 document entitled Rebuttal Testimony of Michael D.
19 Bradley on Behalf of the United States Postal Service,
20 which has been designated as USPS-RT-4.

21 Are you familiar with that document?

22 A I am.

23 Q Was it prepared by you or under your
24 supervision?

25 A It was.

1 Q Do you know whether or not the version that
2 I've handed you includes copies of the pages that were
3 revised this morning in a filing with the Rate
4 Commission?

5 A It does.

6 Q For the record, since the parties might not
7 have copies of that, although there are some available
8 on the table, could you go over the changes that were
9 made in that testimony?

10 A Sure. Two changes or two types of changes.
11 The first are just typos. For example, the word
12 "reduce" should be "reduced." In three instances
13 footnote page numbers should be changed. I cited the
14 first page in the article instead of where the quote
15 appeared, so there are several minor changes.

16 Of more substance, in one of the citations I
17 provided I actually provided citations from an earlier
18 version of the same article, as opposed to the later
19 version, and so to correct that I put the correct
20 quote for the later version in the correction.

21 What that quote says, and this would be on
22 page 4, lines 11 through 14. It says, "We consider
23 the following variables to estimate the cost model:
24 NDP(i), the number of delivery points in the delivery
25 office zone, and AREA(i), the area of the delivery

1 of ice zone in square kilometers.'

2 Q With those revisions, do you have any
3 further revisions to make today?

4 A I do not.

5 Q And are there any library references
6 associated with this testimony?

7 A No.

8 Q But if you were to testify orally today then
9 the contents of the document in front of you would be
10 your oral testimony, correct?

11 A It would.

12 MR. KOETTING: Mr. Chairman, with that the
13 Postal Service would request that the rebuttal
14 testimony of Michael D. Bradley on behalf of the
15 United States Postal Service, USPS-RT-4, as revised
16 with today's date, 12-1-06, be accepted into evidence.

17 CHAIRMAN OMAS: Is there any objection?

18 (No response.)

19 CHAIRMAN OMAS: Hearing none, I will direct
20 counsel to provide the reporter with two copies of the
21 corrected testimony of Michael D. Bradley.

22 That testimony is received into evidence and
23 is to be transcribed into the record.

24 //

25 //

1 (The document referred to,
2 previously identified as
3 Exhibit No. USPS-RT-4, was
4 received in evidence.)

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BEFORE THE
POSTAL RATE COMMISSION
WASHINGTON DC 20268-0001

USPS-RT-4

POSTAL RATE AND FEE CHANGES

Docket No. R2006-1

REBUTTAL TESTIMONY OF
MICHAEL D. BRADLEY
ON BEHALF OF THE
UNITED STATES POSTAL SERVICE

REVISED: 12/1 12006

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AUTOBIOGRAPHICAL SKETCH

My name is Michael D. Bradley and I am Professor of Economics at George Washington University. I have been teaching economics there since 1982 and I have published many articles using both economic theory and econometrics. Postal economics is one of my major areas of research and my work on postal economics has been cited by researchers around the world. I have presented my research at professional conferences and I have given invited lectures at both universities and government agencies.

Beyond my academic work, I have extensive experience investigating real-world economic problems, as I have served as a consultant to financial and manufacturing corporations, trade associations, and government agencies.

I received a B.S. in economics with honors from the University of Delaware, and as an undergraduate was awarded Phi Beta Kappa, Phi Kappa Phi and Omicron Delta Epsilon for academic achievement in the field of economics. I earned a Ph.D. in economics from the University of North Carolina, and as a graduate student I was an Alumni Graduate Fellow. While being a professor, I have won both academic and nonacademic awards, including the Richard D. Irwin Distinguished Paper Award, the American Gear Manufacturers ADEC Award, a Banneker Award and the Tractenberg Prize.

I have been studying postal economics for over twenty years, and I have participated in many Postal Rate Commission proceedings. In Docket No. R84-1, I helped in the preparation of testimony about purchased transportation and in

1 Docket No. R87-1, I testified on behalf of the Postal Service concerning the costs
2 of purchased transportation. In Docket No. R90-1, I presented rebuttal testimony
3 in the area of city carrier load time costs. In the Docket No. R90-1 remand, I
4 presented testimony concerning the methods of city carrier costing.

5 I returned to transportation costing in Docket No. MC91-3. There, I
6 presented testimony on the existence of a distance taper in postal transportation
7 costs. In Docket No. R94-1, I presented both direct and rebuttal testimony on an
8 econometric model of access costs. More recently, in Docket R97-1, I presented
9 three pieces of testimony. I presented both direct and rebuttal testimony in the
10 area of mail processing costs. I also presented direct testimony on the costs of
11 purchased highway transportation. In Docket No. R2000-1, I again presented
12 three pieces of testimony. I presented direct testimony on the theory and
13 methods of calculating incremental cost, and I presented direct and rebuttal
14 testimony on the econometric estimation of purchased highway transportation
15 variabilities. In Docket No. R2001-1, I presented testimony on city carrier costs.
16 Finally, in Docket No. R2005-1, I presented three pieces of testimony. I
17 presented direct and rebuttal testimony in the area of city carrier costs and I
18 presented direct testimony that covered the analytical foundations of the
19 attribution of both purchased transportation costs and window service costs

20 Beside my work with the U.S. Postal Service, I have served as an expert
21 on postal economics to postal administrations in North America, Europe, and
22 Asia. For example, I currently serve as External Methodology Advisor to Canada
23 **Post.**

1
2**PURPOSE AND SCOPE**

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The purpose of my testimony is to review and evaluate two pieces of testimony put forward by Office of Consumer Advocate witness Dr. J. Edward Smith. One piece of testimony, OCA-T-2, is on window service costs, and the other piece, OCA-T-3, is on city carrier delivery costs.

1 I. THE USEFULNESS OF OCA WITNESS SMITH'S ANALYSIS OF
2 CARRIER DELIVERY TIME IS REDUCED BY ERRORS IN BOTH
3 ECONOMIC THEORY AND ECONOMETRIC PRACTICE.
4

5 Office of Consumer Advocate witness Dr. J. Edward Smith (OCA-T-3)

6 reviews and criticizes the Postal Service's study of city carrier delivery costs in
7 Docket No. R2005-1. In particular, he focuses on my estimation of the regular
8 delivery time equation. Dr. Smith criticizes that equation both from the
' 9 perspective of economic theory and model specification. He also presents some
10 alternative specifications of the equation. Finally, he presents some estimates
11 based upon an extract from Postal Service's DOIS data system that was
12 requested by the OCA.

13 In this section of my testimony, I review the criticisms Dr. Smith proffers
14 and find that they are, unfortunately, infected with some serious errors. The
15 same is true of his alternative specifications of the Docket No. R2005-1 equation.
16 Finally, my review of his work with the DOIS data shows that it is incomplete and
17 does not meet Postal Rate Commission standards for an econometric analysis.

18
19
20 A. Dr. Smith's Assertion That Density Should Be Excluded From
21 An Analysis ~~Of~~ Carrier Street Time Costs ~~Is~~ Inconsistent With
22 Previous Research On The Topic. Adding A Density Variable
23 Is Theoretically Correct And Dr. Smith's Own Discussion ~~Of~~
24 Density Provides Strong Justification For Including It.
25

26
27 At the beginning of his testimony, Dr. Smith makes the erroneous
28 assertion that inclusion of a density variable in the analysis of city carrier street

time is "theoretically incorrect." This is a surprising assertion because the utility of including a density variable has been considered by many different researchers in the area of carrier delivery costs, and it is widely considered an important, if not essential, variable.

For example, about ten years ago, one study stated that:²

A last variable plays an important role. The variable is the population density of the delivery offices and is defined by the number of delivery points per hectometer. We essentially consider this variable as an environmental variable which captures the heterogeneity of the offices.

It is well known in the literature on carrier delivery costs that density is an important variable to include in carrier cost analyses. For example Dr. Bernard Roy of La Poste has stated:³

Geographic density is often highlighted as the main factor influencing delivery costs.

¹ See, "Direct Testimony of J. Edward Smith on Behalf of the Office of Consumer Advocate, Docket No R2006-1, OCA-T-3 at 4.

² See, "Scale Economies and Natural Monopoly in the Postal Delivery: Comparison Between Parametric and Non Parametric Specifications," Cazals, C., de Rycek, M., Florens, J.-P., and Rouzand, S. in Managing Change in Postal and Delivery Industries, Crew, M. and Kleindorfer, P., (eds.) Kluwer 1997 at 66.

³ See, "Technico-Economic Analysis of The Costs of Outside Work in Postal Delivery," Roy, B., in Emerging Competition in Postal and Delivery Services, Crew, M. and Kleindorfer, P., (eds.) Kluwer 1999 at 105.

1 Quite naturally, this importance lead Dr. Roy to include density in the model used
2 in his carrier cost **analysis**.⁴

3
4 The cost function for outdoor delivery work is
5 therefore potentially a five-variable function.
6 However, we are going to simplify this function to
7 transform into a three-variable function to make it
8 easier to interpret the results. This simplified function
9 will then depend solely on the density of delivery
10 points, the grouping index and the average traffic per
11 delivery point per day.
12
13

14 Including density in a model of city carrier time is not merely a preference
15 among academic researchers. Researchers at the Postal Rate Commission
16 have also emphasized the importance of density in understanding street time
17 **costs**.⁵

18
19 The fixed cost of delivery (called route time in the **U.S.**
20 delivery cost analyses) is accounted for by the need
21 to move from one stop to another whatever the mode
22 of delivery. Therefore, we use "postal density" as the
23 driver of fixed costs. Postal density is the number of
24 delivery points that can be visited by the carrier in one
25 hour of time, excluding loading time and the variable
26 portion of access time and the variable portion of
27 travel time to and from the route.
28
29

30 Indeed, these researchers found density to be the most important variable to
31 explain cross-country differences in delivery costs:

⁴ **Id.** at 103

⁵ **See**, "Delivery Cost Heterogeneity and the Vulnerability to Entry,"
Bernard, S., Cohen, R., Robinson, **M.**, Roy, **B.**, Toledano, T., Waller, **J.**, and
Xenakis, **S.**, in Postal and Delivery Services: Delivering on Competition, Crew,
M. and Kleindorfer, P., (eds.) Kluwer, 2002 at 172.

Postal density appears to be a more important driver of unit street delivery costs than volume over the actual ranges in France and the U.S. Furthermore, high postal densities reduce the impact of volume on unit street delivery costs, and high volumes reduce the impact of postal density.

A study of delivery costs in the U.K. also included the variables that comprise density in the cost function:⁶

[W]e consider the following variables to estimate the cost model . . .
 NDP_i , the number of delivery points in the delivery office zone; and
 $AREA_i$, the area of the delivery office zone in square km.

Similarly, an earlier study of delivery costs in France included density in the cost function:⁷

The variables use to estimate cost functions are the following:

C , the outdoor delivery cost, which is measured by the number of hours of labor for a week.

Q , the vector of output quantities.

D , the density of the delivery area of each post office, which is measured by the number of delivery points divided by the length of the route.

⁶ See, "Delivery Costs for Postal Services in the UK: Some Results on Scale Economies with Panel Data," Cazals, C., Florens, J.-P., and Soteri, S. Regulatory and Economic Challenges in the Postal and Delivery Sector, Crew, M. and Kleindorfer, P., (eds.) Kluwer 2005 at 206.

⁷ See, "An Analysis of Some Specific Cost Drivers in the Delivery Activity," Cazals, C., Florens, J.-P. and Roy, B., in Future Directions in Postal Reform, in Crew, M. and Kleindorfer, P., (eds.) Kluwer 2001 at 203.

Finally, even a recent **study** of total of overall postal costs included density as a key environmental variable?

Output is measured by the total number of delivered and collected mail. Inputs consist primarily of labour and capital. The firm's total cost of operation a post office can then be represented by the cost function:

$$C = C(Y_C, Y_D, P_C, P_L, CD)$$

Where C represents total cost and Y_C and Y_D are the outputs represented by the total number of collected and processed mail and the total number of delivered mail items, P_C and P_L are the prices of capital and labour, respectively. CD is the customer density, measured as the ratio between the number of customers and the area size measured in square kilometers. The variable CD is introduced in the model as an environmental characteristic.

In sum, the use of a density variable in an econometric study of delivery has been widely accepted by the premier researchers in the field. It is included because it is an important potential driver of carrier out-of-office cost. Thus, for Dr. Smith to simply assert that "from a theoretical viewpoint the use of the density variable is wrong" is surprising and apparently reveals a lack of familiarity with previous research in the area.

Apart from a general description of the first order conditions associated with cost minimization, Dr. Smith fails to provide any justification for his assertion. In addition, Dr. Smith's testimony is not consistent on how it specifies the way in

^a See, Economies of Scale and Cost Efficiency in the Postal Services: Empirical Evidence from Switzerland," Filippini, M. and Zola, M., Applied Economics Letters, Vol. 12, 2005 at 438.

1 which density affects delivery costs. At one point Dr. Smith seems to suggest
 2 that density is an endogenous variable in the optimization process as he states:
 3 “Density is an output of the process, not an input to the **process**.”⁹ Similarly, he
 4 states: “The value of the density variable is an output of the cost minimization
 5 process; density is not an input to the cost function.”¹⁰ It is not clear why Dr.
 6 Smith thinks density is an output of the delivery process when previous
 7 researchers hold the opposing view. But it is surprising, given this view, that he
 8 would eliminate density from his model specification, which he describes as a
 9 “cost curve.”¹¹ As Dr. Smith says: “a cost curve for a firm models the cost as a
 10 function of output.”¹²

11 At other places, however, Dr. Smith seems to accept that density is an
 12 exogenous or “environmental” variable. He states that “measured as delivery
 13 points per square mile, one could propound density as accounting for differences
 14 in the physical layout of ZIP codes — e.g. congestion, urban/suburban/rural,
 15 etc.”¹³ He also indicates that: “What drives cost are the management’s
 16 decisions on how to utilize resources to accommodate whatever level of main
 17 and service territory characteristics are present.”¹⁴ This language describes

⁹ See, “Direct Testimony of J. Edward Smith on Behalf of the ~~Ge~~ of Consumer Advocate, Docket No R2006-1, OCA-T-3 at 6.

¹⁰ Id.

¹¹ Id.

¹² Id. at 4.

¹³ Id. at 3.

¹⁴ Id. at 6.

1 density as an environmental variable leading to changes in cost for carrier street
2 time that are not caused by changes in volume. In this view, density should be
3 included as a constraint on the optimization process. Without the constraint of
4 the physical dispersion of stops, cost minimization would drive the Postal Service
5 to deliver all mail to one point in the ZIP code, says the delivery unit, and would
6 have all customers come there to pick up their mail.

7 Perhaps Dr. Smith's confusion comes from a misunderstanding of what
8 density is in the **Postal** Service context. In the testimony he **states**:¹⁵

9 However, ZIP code density -- i.e., dp/sqm -- is a
10 function of the arrangement of the City Carrier
11 delivery routes, which would be achieved through a
12 determination of a least cost solution to a production
13 function through the attainment of equalities between
14 various rates of technical substitution and input/price
15 ratios in a cost minimization process.
16

17 This sentence has two errors. First, ZIP code density is not a function of the
18 number of routes in a ZIP code. As the formula Dr. Smith presents shows,
19 density is a function of the number of delivery points in a ZIP code divided by the
20 number of square miles in that ZIP code. It has nothing to do with the number of
21 routes in the ZIP code and would be the same whether the ZIP code were served
22 by 1 route or by 100 routes. Route construction is done at the ZIP code level,
23 and the number of delivery points, as well as their dispersion, is taken as a
24 network constraint in the Postal Service's process of finding the time (cost)
25 minimizing configuration of routes. Density is not endogenous in this process.

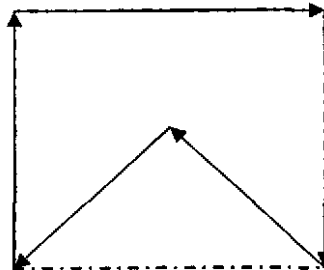
¹⁵ Id. at 3.

Second, Dr. Smith's phrase: "achieved through a determination of a least cost solution to a production function" is unclear. A production function is not a problem that needs to be solved. Instead, it is a mathematical representation of the technical relationship between inputs and outputs. In essence, a production function answers the question, how much output would be produced if the firm used a certain vector of inputs? It does not measure cost and it is not a "least cost solution."

A simple example shows why density can be an important variable. Suppose there were two ZIP codes that happened to be in the form of squares, the first with 10 mile sides and the second with 100 mile sides. Suppose that both ZIP codes have 4 delivery points, one at each of the corners of the square and that each ZIP code's delivery unit was in the center of the square.

Continuing the example, suppose that in the first ZIP code each stop received two letters and in the second ZIP code each stop received just one letter.

Finally, suppose that the two ZIP codes had the same routing pattern. The carrier leaves the station, travels to the stop in the southwest corner of square, proceeds around the outside of the square in counterclockwise fashion until he or she reaches the stop in the southeast corner of the square and then returns to the delivery unit. This would generate pattern of movement that looks like:



In the ZIP code with 10 mile sides, the total miles driven by the carrier would be about 44.14 miles.¹⁶ In the second ZIP code, with 100 mile sides, the miles to be driven would be about 441.42 miles.¹⁷ Assuming an average speed of 40 miles an hour, it would take approximately 1.104 hours to drive the route in the first ZIP code and approximately 11.04 hours to drive the route in the second ZIP code. Apart from any time at the stops, if one excluded density from the analysis, one would have to explain the following pattern in the data:

a	4	1.104
4	4	11.04

In sum, there are both theoretical and operational reasons why density should be included in an econometric analysis of city carrier delivery time. This has been recognized by many experts in the field and Dr. Smith's assertion to the contrary is wrong.

¹⁶ The carrier would drive 10 miles along the three sides and 7.071 miles along each of the diagonals.

¹⁷ The carrier would drive 100 miles along the three sides and 70.7107 miles along each of the diagonals.

1 **B. Reference To Modern Microeconomics Easily Refutes Dr.**
 2 **Smith's Claims About A Lack Of Theoretical Underpinning For**
 3 **The Carrier Street Time Model.**

4
 5
 6 Dr. Smith makes the erroneous assertion that "the underlying city carrier
 7 model appears to be of an ad-hoc equation estimation nature rather than being
 8 based on economic **analysis**."¹⁸ He also concludes that "the theoretical
 9 underpinnings of the city carrier cost model continue to be **weak**."¹⁹ The only
 10 support that he gives for these statements is the assertion that:²⁰

11 In reviewing an economic model one generally
 12 expects to see the maximization or minimization of
 13 something subject to constraints. This does not occur
 14 in the case of witness Bradley's model; rather, data
 15 are fitted to a quadratic function.
 16

17 Such a statement is surprising in view of the way that cost equations are
 18 estimated. Economic research done on cost functions over the past **25** years
 19 has benefited greatly from one the most significant developments in modern
 20 microeconomic theory: the application of duality to the theory of the consumer
 21 and the theory of the firm. With regards to the theory of the firm, duality theory
 22 establishes that there is a duality between production and cost, in the sense that
 23 for every technology there is an associated cost function, and for every cost
 24 function there is an associated technology. This means that for any cost
 25 function, there **is** an associated underlying production function, and the cost

¹⁸ See, "Direct Testimony of J. Edward Smith on Behalf of the Office of
 Consumer Advocate, Docket No **R2006-1**, OCA-T-3 at **8**.

¹⁹ Id. at **21**.

²⁰ Id. at **8**

1 function directly embodies the economically relevant characteristics of that
 2 technology. Consequently, researchers no longer need to explicitly (or
 3 mathematically) derive the cost function when they want to investigate
 4 characteristics of the technology such as economies of scale:"

5
 6 Moreover, any function with all the properties of a cost
 7 function implies some technology for which it is the
 8 cost function. This last fact marks one of the most
 9 significant developments in modern theory and has
 10 had important implications for applied work. Applied
 11 researchers need no longer begin their study of the
 12 firm with detailed knowledge of the technology and
 13 with access to relatively obscure data. Instead, they
 14 can concentrate on devising and estimating flexible
 15 functions of observable market prices and output and
 16 be assured that they are carrying along all
 17 economically relevant aspects of the underlying
 18 technology. They can then "recover" those relevant
 19 aspects of the technology from the estimated cost
 20 function.

21
 22
 23
 24 Thus, applied researchers start by writing down the cost function to be estimated,
 25 not by "maximizing or minimizing something subject to constraints." This is not a
 26 new approach to the applied econometrics of firms²² and has been widely applied

²¹ See, Advanced Microeconomic Theory, Jehle, G.A., Prentice Hall, 1991 at 238.

²² See, for example, "Economies of Scale in U.S. Electrical Power Generation," Christensen, L and Green, W. The Journal of Political Economy, Vol. 84, No. 4, August 1976, at 655.

1 in many different applications both public and **private**.²³ Moreover, this approach
 2 has been applied to estimating the cost characteristics of postal **delivery**.²⁴

3 Dr. Smith also appears to ignore the fact that I used economic theory in
 4 specifying the equation to be estimated in my Docket No. R2005-1 testimony and
 5 clearly described that use. In my testimony, I explicitly outlined the process to be
 6 used in specifying and estimating an econometric cost **function**.²⁵ As I explained
 7 there, the first step in the process is to identify the behavior being modeled. For
 8 carrier street time, I explained that that behavior was the route optimization
 9 process, in which the Postal Service attempts to minimize delivery time given the
 10 volumes it receives. I then explained that in the next step, the researcher
 11 identifies the variables to be included in the model. Economic theory is used

²³ See, "Scope and Scale Economies in Multi-Utilities: Evidence from Gas, Water and Electricity Combinations," Fraquelli, G, Massimiliano, P., and Vannoni, D., Applied Economics, Vol. 36, 2004 at 2045 or "Hospital Cost Containment and Length of Stay: An Econometric Analysis," Carey, K., Southern Economic Journal, Vol 67. 2000 at 363, or "Economies of Scale in Public Education: An Econometric Analysis," Chakraborty, K, Basudeb, B and Lewis, W.C., Contemporary Economic Policy, Vol. 18, 2000, at 238.

²⁴ See, "An Analysis of Some Specific Cost Drivers in the Delivery Activity," Cazals, C., Florens, J.-P. and Roy, B., in Future Directions in Postal Reform, in Crew, M. and Kleindorfer, P., (eds.) Kluwer 2001 at 203 or Cohen, Robert, Robinson, Matthew, Waller, John, and Xenakis, Spyros, "The Cost of Universal Service in the U.S. and its Impact on Competition," Proceedings of Wissenschaftliches Institut für Kommunikationsdienste GmbH (WIK), 7th Koenisawinter Seminar on Contestability and Barriers to Entry in Postal Markets, 2003 or Bernard, Stephane, Cohen, Robert, Robinson, Matthew, Roy, Bernard, Toledano, Joelle, Waller, John and Xenakis, Spyros, "Delivery Cost Heterogeneity and Vulnerability to Entry," in Postal and Delivery Services: Delivering on Competition, Michael Crew and Paul Kleindorfer (eds.), Kluwer, 2002.

²⁵ See, "Testimony of Michael D. Bradley on Behalf of the United States Postal Service," Docket No. R2005-1, USPS-T-14 at 25.

1 explicitly at this step. Finally, I explained that the last step in the specification
 2 process is to choose the functional form to be used for estimation. As Dr. Smith
 3 indicated, I followed the literature and used a flexible functional form, the
 4 quadratic.

5 Thus, in contrast to Dr. Smith's claims, I followed established economic
 6 theory and econometric practice in estimating the delivery time equations in
 7 Docket No. R2005-1.

8

9 C. Dr. Smith's Re-Estimations Of The FY 2005 Recommended
 10 Model Contain Errors In Both Theoretical Specification And
 11 Econometric Practice. Consequently, He Fails To Produce
 12 Any Results That Are Superior To The Recommended
 13 Specification In Docket No. R2005-1.

14

15

16

17 Dr. Smith estimates a menu of variations on my recommended model for
 18 regular delivery time from Docket No. R2005-1. He does not estimate any
 19 variants of the parcellaccountable delivery time model. All told Dr. Smith
 20 estimates twelve different model specifications, including both a full quadratic
 version and a restricted quadratic version for each **specification**.²⁶ His approach

²⁶

In what follows, I discuss the results for the restricted quadratic versions of the specifications. Dr. Smith appears to think that if a version of the full quadratic model does not produce any negative variabilities, than he can ignore the fact that multicollinearity is a problem. (See, the discussion of models on pages 12-14 of OCA-T-3.) This is erroneous. A negative variability is an extreme symptom of multicollinearity, but it is not a necessary condition for its existence. The existence of substantial multicollinearity renders the estimated coefficients unreliable even if they are not negative. Thus, it is not appropriate to deal with multicollinearity by picking and choosing among the full quadratic results based upon whether or not one produces a negative coefficient. If Dr. Smith felt that multicollinearity was a serious enough problem that it required estimating a restricted model (as he did for each of the specifications) he should not later

1 to econometric modeling is sometimes called the “kitchen sink approach,
2 because it mechanistically reestimates versions of the model using different
3 permutations of the right-hand-side variable. This is a departure from and a
4 contradiction to Dr. Smith’s other argument about the importance of using
5 economic theory in specifying the econometric model to be estimated. Ironically
6 it is this approach which is *ad hoc*, as no economic theory is used to justify the
7 repeated inclusion and exclusion of variables in the various versions estimated.
8 In fact, from a theoretical perspective, one of every “on again-off again”
9 estimation pairs is necessarily wrong. Moreover, no econometric tests are
10 provided for including or excluding variables.

11 The following table presents the twelve different variants Dr. Smith
12 estimates. As the table shows, the different specifications are formed by
13 combinations of excluding the density and collection variables, redefining the
14 letters and flats variables, and combining the regular delivery and
15 parcellaccountabledelivery variables in one equation.

ignore that fact and choose a full quadratic model just because it gives him
results he prefers.

1

Variants of the Recommended Model Estimated By Dr. Smith

Variant	Included?	Included?	Letters?	Combined?
1	Y	Y	N	N
2	Y	Y	N	N
3	N	Y	N	N
4	Y	Y	Y	N
5	N	Y	Y	N
6	N	N	N	N
7	N	N	Y	N
8	Y	Y	N	Y
9	N	Y	N	Y
10	Y	Y	Y	Y
11	N	Y	Y	Y
12	N	N	N	Y

2

3

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11

The first variant is simply a replication of the recommended model from Docket No. R2005-1, and needs no further discussion. The second variant is the same specification, but with a different definition of the "density" variable. This issue arises because the FY2002 CCSTS database is not complete. As was discussed in Docket No. R2005-1, the CCSTS database sometimes does not include reporting for all routes in ZIP code on a given day. This means that the delivery points associated with recorded delivery time and volumes can vary from day to day within a ZIP code. Ideally, one would know the square mileage for the area served by the included routes and would calculate density by dividing that

1 square mileage into the delivery points on the same routes. Unfortunately, that
2 data is not available and an approximation must be made. In Docket No. R2005-
3 1, I proposed an approximation that would account for the variation in routes. Dr.
4 Smith disagrees, and would prefer an approximation that does not vary from day
5 to day, even though the actual density associated with the recorded delivery time
6 is likely varying. Specifically he recommends:²⁷

7
8 In reporting mail deliveries, the number of routes
9 reporting mail delivery for a specific ZIP code varied
10 from day-to-day. In computing density for a ZIP code,
11 one would use the area in a ZIP code divided by the
12 maximum of delivery points in the ZIP code.
13
14

15 However, in his econometric work Dr. Smith defines density in a different way
16 He defines density as the ratio of "housing units" to square miles, not delivery
17 points to square miles. Upon request, Dr. Smith provided the link to the definition
18 of housing unit." That link shows the definition to be:²⁹

19 Housing Units - A housing unit is a house, an
20 apartment, a mobile home or trailer, a group of rooms,
21 or a single room that is occupied, or, if vacant, is
22 intended for occupancy as separate living quarters.
23 Separate living quarters are those in which the
24 occupants live separately from any other persons in
25 the building and which have direct access from the
26 outside of the building or through a common hall.
27
28

²⁷ See, "Direct Testimony of J. Edward Smith on Behalf of the Office of Consumer Advocate, Docket No R2006-1, OCA-T-3" at 7. Presumably, Dr. Smith meant to say "divided into" rather than "divided by"

²⁸ See, USPS/OCA-T3-7.

²⁹ See, http://www.census.gov/popesfftopic/terms/housing_unit.html

1 From this definition, it is clear that a housing unit is not synonymous with a
2 delivery point. Not surprisingly the number of housing units in a ZIP Code is not
3 the same as the number of delivery points in a ZIP Code. Thus, Dr. Smith's
4 measure of density is erroneous because it does not measure **postal** density.
5 This might be an acceptable approximation if the desired data were not
6 unavailable, but they are. Dr. Smith's desired variable, the ratio of the maximum
7 number of delivery points in a ZIP code to the square miles in the ZIP code is
8 readily available and should have been used. Thus, Dr. Smith's estimated
9 equation contains a crucial error and does not accomplish what he intends.

10 Seven of the ten remaining variants estimated by Dr. Smith omit the
11 density variable. As I demonstrate earlier in this testimony, both economic theory
12 and operational practice strongly suggest that the density variable should be
13 included. Moreover, there is widespread agreement among researchers that
14 density is an important variable both theoretically and empirically. This means
15 that its omission is a potentially serious mis-specification of the equation. Dr.
16 Smith's arbitrary omission of this potentially important variable thus renders
17 seven of the twelve variants unusable. Moreover a review of the estimated
18 results for those seven variants suggests that omitting the density variable could
19 lead to a downward bias in the estimated elasticities. For example, compare
20 variant 1, the recommended model with variant 3, the same model with density
21 dropped. Dropping the density variable from the equation leads to a 3
22 percentage point drop in the letters elasticity and a 1 percentage point drop in the
23 flats elasticity. A similar result holds for Dr. Smith's preferred definition of

1 density. A comparison of variant 2, which is the recommended model with Dr.
2 Smith's modified density variable, with variant 3 shows a 5 percentage point
3 decline in the letter elasticity a 1 percentage point decline in the flats elasticity.
4 Given that the effect of density on delivery time (it is faster to deliver the same
5 volume of mail in an area with higher postal density) is negative, this result
6 suggests that the impact of density on delivery time is being erroneously
7 attributed to these volumes, causing their estimated variabilities to be biased
8 down.³⁰

9 The three remaining variants are various combinations of two changes,
10 neither of which is an improvement over the recommended model. The first
11 change is to redefine the "letters" variable to include only DPS letters and to
12 simultaneously redefine the "flats" variable so that it includes both cased letters
13 and cased flats. Dr. Smith's justification for this approach is the fact that current
14 Postal Service city carrier procedures have carriers on routes with walking
15 sections deliver the mail in three bundles, one for DPS mail, one for cased mail,
16 and one for sequenced mail. While I am not opposed to exploring such an
17 approach (I did so in my Docket No. R2005-1 testimony and in my response to
18 Presiding Officer's Information Request No. 4, Question 11 in this docket) there
19 are flaws in Dr. Smith's approach. First, as I explained in my Docket No. R2005-
20 1 testimony, Postal Service delivery methods were mixed in FY 2002 when the

³⁰

It bears mention that in variants 6, 7 and 9, the error of dropping the density variable is compounded by Dr. Smith's dropping of the collection variable. Dr. Smith's apparent justification for this mis-specification is that the DOIS data does not measure collection volume. However, the characteristics of the DOIS data set do not bear upon the proper use of the FY 2002 data.

1 carrier data were collected. At that time, DPS was not as widespread as it is now
2 and there was still some separate casing of letters and flats. Thus the "three
3 bundle" approach was as not universal as it is now. It is questionable to specify
4 a model based upon more recent technology for estimation with a data set in
5 which costs were generated more in accord with an older technology.

6 Second, Dr. Smith makes no mention of how the costs in this mixed shape
7 volume variable cost pool are to be distributed to classes and subclasses. In Dr.
8 Smith's "DPS specification, the "flats" cost pool contains both letters and flats.
9 However, the Carrier Cost System, the basis for forming the distribution key ~~for~~
10 volume variable delivery time costs, is based upon shape. Thus, some allocation
11 of the costs in the mixed shape cost pool must be made and without an approach
12 to resolving this issue, the mixed variability is not useable.

13 Dr. Smith's final variation is to combine the regular delivery variables with
14 the parcellaccountable delivery variables. He combines these variables despite
15 his recognition that the two activities (regular delivery and parcel accountable
16 delivery) are **separable**:³¹

17 The delivery of accountables and packages generally
18 requires that the carrier make a separate trip from the
19 van to the delivery point with the parcel and/or
20 accountable after delivering the other mail. In
21 assembling the database the Postal Service scanned
22 delivery time from the carrier starting to deliver the
23 parcellaccountable until the delivery had been
24 completed. Accordingly, there was no scan of time
25 for large parcels and accountables without there
26 being a need to delivery a large parcel or
27 accountable.

³¹ See, "Direct Testimony of J. Edward Smith on Behalf of the Office of
Consumer Advocate, Docket No R2006-1, OCA-T-3" at 13.

1 Dr. Smith presents no reasons why he wishes to combine the **two**
2 equations and presents no advantages of the approach. In contrast, there are
3 two obvious drawbacks. First, he combines large parcels and small parcels into
4 a single variable that he calls "packages." It is obvious from an operations
5 perspective, that the time caused by delivering a large parcel, that typically
6 requires an approach to the customer's door, will be much larger than the time
7 caused by delivery a small parcel that can be placed directly into the customer's
8 mail receptacle. Also, the collected FY2002 data strongly support this
9 operational reality. Thus, combining the two types of parcels into one variable ~~is~~
10 a mis-specification of the equation. The other obvious drawback is the fact that
11 the accountables variable has a negative sign in all of the specifications. This
12 also calls into question the utility of this specification.

13 In sum, despite trying the "kitchen sink" approach, Dr. Smith did not
14 produce any improvements over the recommended model. His estimations are
15 contaminated with specification errors and, as a result, his variants are inferior to
16 the recommended specification.

1
2 D. Dr. Smith's Analysis Of The **DOIS** Data ~~Is~~ Preliminary And
3 Does Not Meet The Commission's Standards For Econometric
4 Modeling.
5

6 By his own admission, Dr. Smith's analysis of the DOIS database was
7 constrained by time and thus is not thorough:

8
9 The database has been available for a short time, and
10 significantly more time would be required for a
11 thorough analysis. Due to the limited amount of time,
12 I have been able to apply minimal quality control
13 procedures and have not yet made full use of the
14 data.
15

16
17 Although Dr. Smith should be commended for attempting to use at least part of
18 the expensive DOIS data set that the Office of Consumer Advocate requested
19 the Postal Service produce in this case, it is clear that his analysis is not at the
20 level required by Postal Rate Commission standards. The DOIS system is an
21 ongoing operational database and not a special study produced for a Postal Rate
22 Commission proceeding. As such, special consideration must be given to
23 whether or not the collected data are suitable for a rate case study. For example,
24 in Docket No. **R2000-1**, the Commission articulated a series of questions that
25 should be applied to an operational data set. These questions include issues
26 like:³²

- 27 1. Does the data set include the correct definitions of the variables of
28 interest?
29
30 2. Are the data collectors accurately recording the information?
31

³² See, PRC Op., Docket No. **R2000-1**, at 113-116.

- 1 3. Are there consistent applications of the definitions of the variables?
- 2
- 3 4. Is the collected data mapped appropriately into the variables of
- 4 interest?
- 5
- 6 5. Are there any unexplained deletions of the data?
- 7
- 8

9 A review of Dr. Smith's testimony and interrogatory responses makes
10 clear that he does not have a sufficiently adequate knowledge of the DOIS data
11 system to answer these and other basic questions about the definitions of
12 variables, the data collection process, the accuracy of the data, or the usefulness
13 of the data. He is asking the Commission simply to accept the accuracy of the
14 DOIS data without reference to its sampling plan, to any associated data
15 collection issues, to sample attrition rates,³³ to variable definitions, to possible
16 inconsistencies through time and to other important issues. It is clear that Dr.
17 Smith has not submitted enough information for the Commission to review the
18 DOIS data that he requested in a way at all similar to its review of the city carrier
19 street time data submitted by the Postal Service in Docket No. **R2005-1**. For
20 example, Dr. Smith supplies virtually no documentation of the DOIS system and
21 provides no information in his testimony about how and why the data are
22 collected. Moreover, Dr. Smith has indicated that there are significant gaps in his
23 understanding of the data he uses. Among the things that Dr. Smith says he has
24 uncertainty about are the following:

³³ For example, Table 3 on page 16 of Dr. Smith's testimony indicates that he uses only 66.6 percent of the initial observations from the DOIS database. Yet nowhere does he explain why he failed to use one third of the observations.

- 1 • Dr. Smith says he doesn't know about any difficulties the Postal Service
2 may have incurred in collecting, measuring, standardizing, cleaning or
3 processing the DOIS data over **time**.³⁴
4
- 5 • Dr. Smith says he doesn't know if there were any corrections,
6 modifications, or changes in the DOIS data collection process over the
7 time he requested **data**.³⁵
8
- 9 • Dr. Smith says he doesn't know if DOIS route-day-level observations must
10 be corrected for quality control **procedures**.³⁶
11
- 12 • Dr. Smith says he doesn't know if DOIS includes both letter routes and
13 special purpose **routes**.³⁷
14
- 15 • Dr. Smith says he doesn't know how one would tell within the DOIS
16 system whether zero time or volume data for a zip-routeday is because of
17 non-delivery or because of uncollected or deleted **data**.³⁸
18
- 19 • Dr. Smith says he doesn't know whether some individual data elements
20 are either not collected or are subsequently eliminated by quality
21 **control**.³⁹
22
- 23 • Dr. Smith says he doesn't know whether some individual route/carrier-day
24 observations are either not collected or are subsequently eliminated by
25 quality **control**.⁴⁰
26
- 27 • Dr. Smith says he doesn't know if some full zip code observations are
28 either not collected or are subsequently eliminated by quality **control**.⁴¹
29

34 See, ADVO/OCA-T3-37.

35 Id.

36 Id.

37 See, ADVO/OCA-T3-38.

38 Id.

39 See, ADVO/OCA-T3-39.

40 Id.

41 Id.

- 1 • Dr. Smith says he couldn't provide even a basic description of the USPS
2 quality control procedures, and data information manipulation procedures
3 applied to the DOIS data.⁴²
- 4 • Dr. Smith says he doesn't know how the street hours were quantified or
5 who the data collectors were.⁴³
- 6 • Dr. Smith says he doesn't know how the collection of the data for the
7 street time variable was standardized over time. ⁴⁴
- 8 • Dr. Smith says he doesn't know if there were any changes in how the
9 street hours variable was collected or measured in DOIS over time.⁴⁵
- 10 • Dr. Smith says he can provide only cursory (e.g. "Parcels are exactly what
11 the name implies.") or erroneous (e.g. "Sequenced letters are letters
12 received by the Postal Service from the mailer in sequenced form")
i 3 definitions of the volume variables.⁴⁶
- 14
- 15 • Dr. Smith says he does not know how the collection of the data on the
16 cased letter, the cased flat, the automated flat, the DPS letter or the
17 sequenced variables were standardized over time and over ZIP codes and
18 routes."
- 19 • Dr. Smith says he does not know if there were any changes in how the
20 cased letter, the cased flat, the automated flat, the DPS letter or the
21 sequenced variables volumes were collected over time.⁴⁸
- 22 • Dr. Smith says he does not know if any specific quality control procedures
23 were applied to the cased letter, the cased flat, the automated flat, the DPS
24 letter or the sequenced data and any changes over time in those

⁴² See, ADVOIOCA-T3-40.

⁴³ See, ADVOIOCA-T3-45.

⁴⁴ Id.

⁴⁵ Id.

⁴⁶ See, ADVOIOCA-T3-50 and ADVO/OCA-T3-51.

⁴⁷ See, ADVOIOCA-T3-47, ADVO/OCA-T3-48, ADVOIOCA-T3-49 and
ADVOIOCA-T3-50

⁴⁸ Id.

1 procedures⁴⁹

- 2
- 3 • Dr. Smith says he doesn't know whether DOIS includes data for Sunday
 - 4 and holidays.⁵⁰
 - 5
 - 6

7 While no witness will have all the answers about a data set and Dr. Smith's

8 efforts are complicated by the fact he is a non-Postal Service witness trying to

9 use a Postal Service data set, by his own admissions Dr. Smith's lack of

10 knowledge about the DOIS data set seems pretty extensive. Moreover, Dr.

11 Smith participated in designing the request for the data, so this lack of knowledge

12 can not be minimized by suggesting that he was forced to work with a data set

13 created by someone else.⁵¹

14 In addition, the DOIS equation used by Dr. Smith has serious specification

15 problems. There are three important omitted variables, the volume of collection

16 mail, the volume of accountables, and the volume of large parcels. None of

17 these are included in the DOIS dataset used by Dr. Smith and none of them

18 appear in his equations. Given that these variables are likely correlated with the

19 remaining included variables, there is a significant probability that the estimated

20 coefficients in Dr. Smith's DOIS equations are biased.

21 Finally, Dr. Smith's DOIS equations are unusable by the Commission

22 because, even after repeated prodding, he does not produce or construct the

23 cost pools against which the variabilities should be applied, he does not provide

49 Id.

50 See, MPA/ANM/OCA-T3-8

51 See, USPSIOCA-T3-20.

1 the distribution keys needed to distribute the volume variable costs constructed
2 with his variabilities, his recommended model excludes density, and he does not
3 provide variabilities for large parcels, accountables, or collection mail. The
4 thinness of his DOIS analysis is revealed by the facile excuse Dr. Smith provides
5 for not addressing the lack of a variability for collection mail. He claims that,
6 because the Postal Service has begun to offer a parcel pickup service for
7 Express Mail and Priority Mail, historical measures of collection volume are
8 irrelevant. He thus claims, without presenting any evidence, that "the nature of
9 collection volume has changed significantly"⁵² and that carriers now undertake
10 different collection activities.⁵³ Thus, he claims that the collection variability
11 estimated in Docket No. R2005-1 is "irrelevant."

12 But Dr. Smith provides no support for this strong claim. He did not
13 undertake a study of collection activities, he did not attempt to ascertain how
14 often the "new" activities are taking place, and he did not even review the current
15 Carrier Cost System data on collection volumes to see how often Express Mail
16 and Priority packages are picked up by carriers. Of course, had he done any of
17 these, he would have quickly realized that his argument is wrong. The amount of
18 package pickup is still quite small and the collection activity is still dominated by
19 collection of letters and flats. The percentage of collection mail that is made up of

⁵² See, "Direct Testimony of J. Edward Smith on Behalf of the Office of Consumer Advocate, Docket No R2006-1, OCA-T-3" at 21.

⁵³ In fact, it is my understanding that carriers historically have collected Express Mail Parcels and Priority Mail Parcels presented to them.

⁵⁴ See, "Direct Testimony of J. Edward Smith on Behalf of the Office of Consumer Advocate, Docket No R2006-1, OCA-T-3" at 22.

1 letters and flats continues to be over 99 percent. Similarly, the proportion of
2 collection mail that consists of Express Mail and Priority mail is less than one
3 percent. Dr. Smith has just exaggerated the impact new features of the carrier
4 pickup service in an effort to cover the omission of collection data in DOIS.
5

Percentages of Collection Mail Made Up by Various Categories
Carrier Cost System Collection Mail Distribution Key

	FY 2004	FY 2005	FY 2006
First Class & Standard	99.3%	99.1%	99.0%
Priority	0.4%	0.6%	0.7%
Express Mail	0.0%	0.0%	0.0%
All Other	0.3%	0.3%	0.3%

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**II. OCA WITNESS SMITH'S ANALYSIS OF THE POSTAL SERVICE'S
UPDATE OF THE WINDOW SERVICE TRANSACTION TIME MODEL
YIELDS NO IMPROVEMENTS OVER THE RECOMMENDED MODEL**

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Office of Consumer Advocate witness Smith (OCA-T-2) accepts, supports, and applies my improvements to the formulas used for calculating window service transaction time variabilities and he recommends the use of the updated transaction time study database collected by the Postal Service.⁵⁵ He also tries some alternative econometric analyses but finds that his results are very similar to mine.⁵⁶

My analysis of witness Bradley's work results in minor changes as proposed in Table 5 to his conclusions and recommended variabilities.

In this section, I review the concerns that Dr. Smith voices with the new transaction time study database as they relate to calculation of variabilities⁵⁷ and his alternative analyses. I find that his concerns about the updated data set are speculative and not substantive, and they do not have the effects on the variabilities that he asserts. In addition, my review of his alternative econometric analyses identified important deficiencies, and I show that none of his alternatives are preferred to my recommended model.

⁵⁵ See, "Direct Testimony of J. Edward Smith on Behalf of the Office of Consumer Advocate, Docket No R2006-1, OCA-T-2 at 2.

⁵⁶ Id. at 27

⁵⁷ Dr. Smith's other criticisms of the new transactions time database are rebutted by Postal Service witness Kelley. See, USPS-RT-6.

1
2
3 A. Dr. Smith's Speculations about Possible Problems in the
4 Transactions Time Study Database for Calculating Variabilities
5 Are Wide of the Mark.
6
7

8 Dr. Smith suggests that the estimated variabilities for window service time
9 are very sensitive to minor variations in the data collected in the transactions time
10 study. As I show below, this suggestion is erroneous. Moreover, Dr. Smith's
11 attempt at justifying his assertion is weakened by a series of errors and
12 misstatements that undermine the credibility of the assertion. Before addressing
13 these errors, it is important to emphasize that Dr. Smith does not allege that
14 there actually are errors in the transaction time database. He does not point to
15 even a single instance, out of nearly 8,000 transactions, in which there was an
16 error in recording the type of transaction. He does not present any evidence of
17 errors in recording the type of transactions. His entire argument is speculative.
18 His argument boils down to suggesting if there were major errors in the database
19 then there could be errors in the calculated variabilities. This is quite different
20 from demonstrating that there are errors in the database.

21 However, his theoretical attempt to criticize the transaction time study
22 database actually shows that the variability results are robust, not fragile.
23 Consider Dr. Smith's Table 2, which he claims shows the sensitivity of the
24 results.⁵⁸ In the table, he analyzes just one type of transaction, Bulk Stamps,

⁵⁸ See, "Direct Testimony of J. Edward Smith on Behalf of the Office of
Consumer Advocate, Docket No R2006-1, OCA-T-2" at 7.

1 which has the largest number of recorded SISQ transactions. Yet even that
2 single product does not yield the results he asserts.

3 There are 835 SISQ transactions and 338 SIMQ transactions for Bulk
4 Stamps in the transactions time study database. In forming the calculations
5 presented in Table 2, Dr. Smith pursues a "counterfactual" analysis and pretends
6 that there were data collection errors in classifying types of transactions:⁵⁹

7 Suppose, however, that there were data collection
8 errors and, for purposes of simplification, the SISQ
9 and SIMQ numbers changed to other numbers shown
10 on Table 2.
11

12 He pursues this counterfactual exercise in an attempt to examine what
13 would happen to the calculated variability in the event of large data errors. This
14 is akin to sensitivity analysis, in which one varies an input to a calculation to see
15 the impact of this variation on the calculated value. However, unlike an actual
16 sensitivity analysis, Dr. Smith does not specify the range of variation in the input
17 being changed. This is a critical omission because one cannot judge whether the
18 change in the calculated variable is "large" or "small" without some sense of how
19 large the change in the input is. Even though a calculation is robust, a large
20 change in an input value could cause a large change in the calculated value.

21 To be sure, Dr. Smith is proposing large changes in the input variables in
22 his "Table 2." In the first row of the table, Dr. Smith hypothesizes a 12 percent

⁵⁹

Id. at 8. Dr. Smith appears to be unaware that the classification of transaction is based upon the data recorded in the POS system, which captures the products purchased and revenue received. He provides no explanation as to how this system could erroneously classify a single quantity transaction as a multiple quantity transaction and vice versa.

1 increase in SISQ transactions and a **26** percent decrease in SIMQ transactions.
2 These are large changes in these inputs to the variability calculation. The
3 resulting change in the variability, however, is modest. The variability increases
4 by just **3** percentage points from **41.0** percent to **44.3** percent. Similarly, the third
5 row of the table hypothesizes at **12** percent decrease in SISQ transactions and a
6 **26** percent increase in SIMQ transactions. Not surprisingly, this symmetric
7 change leads to a similar sized decrease in the variability of just **3** percentage
8 points from **41.0** percent to **37.7** percent. Finally, Dr. Smith presents a more
9 extreme case featuring a **24** percent increase in the number of SISQ transactions
10 and a 52 percent decline in SIMQ transaction. This radical realignment of
11 transaction types leads to a decline in the variability of only **6.5** percentage points
12 from **41.0** percent to **34.5** percent. When fully explained, Dr. Smith's table shows
13 just the opposite of his claim; the table shows that the variabilities are quite
14 robust to even a large restructuring of transaction types. Moreover, this table
15 overstates the overall effect on volume variable cost of rearranging transactions,
16 because it ignores the fact that the "Bulk Stamps" variability is just part of
17 calculating an overall Stamps variability. A Non-Bulk Stamps variability, a PVI
18 variability and a Demand Side variability all go into calculating the overall Stamps
19 variability and that overall variability is the one that is used to calculate volume
20 variable costs.

21 The other weakness of Dr. Smith's table is that he only looks at part of one
22 product and ignores all the other products. A much better sense of the
23 robustness of the variability formula is found by looking at the impact of a change

in the mix of the transactions on all the products. I present the results of such a calculation in the following table. It shows the impact of a relatively large switch in transactions for all products that have single item transactions. This table shows that the variability formula is robust.

Analyzing the Effect of a Large Shift of Transactions from SISQ to SIMQ

Product	Reduction in SISQ	Increase in SIMQ	Original Variability	Alternative Variability	Difference
Priority	-10.0%	56.2%	70.2%	69.3%	-0.9%
First Class	-10.0%	29.7%	64.2%	62.9%	-1.4%
Parcel Post	-10.0%	50.7%	75.3%	75.2%	-0.1%
Other W& R	-10.0%	53.3%	67.5%	67.4%	-0.1%
Express Mail	-10.0%	101.9%	66.4%	66.3%	-0.1%
Money Order	-10.0%	28.6%	64.7%	64.2%	-0.5%
International	-10.0%	36.1%	78.5%	78.3%	-0.1%
PO Box	-10.0%	35.3%	72.5%	72.5%	0.0%
Other S.S.	-10.0%	na	95.4%	95.3%	-0.1%
PVI	-10.0%	51.4%	59.6%	59.5%	-0.1%
All Stamps	-10.0%	14.4%	33.4%	31.1%	-2.3%

Note: Other Special Services had no SIMQ transactions in the original dataset.

Source: Excel Spreadsheet (USPS.RT.4.Variabilities.Sensitivity.xls) attached electronically.

Finally, Dr. Smith makes a number of errors in describing his attempt at a sensitivity analysis. First he states:⁶⁰

The results from the methodology are very sensitive to the data collection process. Furthermore, if, in an effort to be helpful and efficient, the clerk asks whether the customer would like to purchase stamps or conduct any other type of business as part of the transaction, then the nature of the transaction could change entirely. The volume variability could be affected by the clerk's actions.

⁶⁰

See, "Direct Testimony of J. Edward Smith on Behalf of the Office of Consumer Advocate, Docket No R2006-1, OCA-T-2" at 8.

1 **As** demonstrated above, the first sentence is erroneous. In addition, the
2 second sentence mixes operational procedures with the data collection effort.
3 Whatever procedures the Postal Service has for clerks to interact with
4 customers, their effects will show up in the recorded transaction times in a
5 transaction time database. In addition, due to the fact that the products included
6 in each transaction were obtained directly from the POS-ONE register database,
7 the number and type of transactions are not subject to data collection error
8 arising from differences in how the transaction is conducted by the clerk. These
9 effects will therefore be embodied in the estimated variabilities. That is, in part,
10 why one updates studies – to capture an changes in procedures and
11 technologies. To suggest that different procedures can cause erroneous
12 variations in variabilities is misleading. Different procedures can cause true
13 changes in variabilities and updates capture such changes.

14 Similarly Dr. Smith errs when he says.⁶¹

15 Clearly, having an accurate database representative
16 of the general population of transactions is important:
17 a change of a few transactions can have a major
18 impact on computed volume variability. Furthermore,
19 if, in the example above, the customer had also
20 purchased a single stamped envelope as part of the
21 transaction, the transaction would have been an MI
22 (multiple items) transaction and would not even have
23 entered this part of the calculations, given the formula
24 in use.
25

26 Again, Dr. Smith's claim that "a change of a few transactions can have a major
27 impact on computed volume variability" has been shown to be erroneous. In

⁶¹ **Id.** at 8-9.

1 addition, Dr. Smith's claim that if a single item transaction had been transformed
 2 into a multiple item transaction, then "it would not even have entered this part of
 3 the calculations, given the formula in use" is false. Its falsity is demonstrated by
 4 the fact the number of multiple item transactions (n_{MI}) does indeed enter the
 5 formula use for calculating the variability:

6
 7

$$\lambda_k = \frac{\left(\beta_0 \frac{n_{SISQ_k}}{\sum_{j=1}^m n_{SISQ_j} + \sum_{j=1}^m n_{SIMQ_j} + n_{MI}} + \beta_k \bar{X}_k \right)}{\left(\frac{n_{SISQ_k}}{\sum_{j=1}^m n_{SISQ_j} + \sum_{j=1}^m n_{SIMQ_j} + n_{MI}} + \frac{n_{SIMQ_k}}{\sum_{j=1}^m n_{SISQ_j} + \sum_{j=1}^m n_{SIMQ_j} + n_{MI}} \right) \beta_0 + \beta_k \bar{X}_k}.$$

9

1 **B.** Walk Time is not Part of Transaction Time and Should Not be
2 Included in the Estimated Equation. Dr. Smith's Estimation
3 Demonstrates This Point.
4

5
6 Dr. Smith attempts to criticize the transactions time study database by
7 speculating that observed variations in walk time data "call into question the
8 overall accuracy of the database."'' Unfortunately, Dr. Smith makes a strong
9 claim without presenting credible evidence to support it. To be fair, he attempts
10 to support his claim with Table 3, but Table 3 does not actually provide any such
11 support.

12 Dr. Smith begins his analysis of walk time on the wrong foot when he
13 erroneously states **that**:⁶³

14 One would expect changes in total walk-time to be
15 proportional to changes in total transaction time: the
16 simple ratio of total recorded walk-time to total
17 transaction time should be relatively invariant.
18

19
20 This assertion is without merit. For any given transaction, walk time is not related
21 to transaction time because walk time is determined by the distance (and
22 physical characteristics of that distance) between the head of the line and the
23 window. The time taken to traverse that distance is not related to the number of
24 items or complexity of the items being **transacted**.⁶⁴ It takes just as long to cover
25 the distance to the window for a combination Express Mail and passport

⁶² Id. at 12

⁶³ Id.

⁶⁴ It is true that in extreme cases a large number of heavy or bulky items
could slow one's progress to the window. However, this event has too low a
frequency to be important.

1 transaction as it does for a single stamp coil transaction. In fact, in a post office
2 with multiple windows, the more complicated transaction could take place at a
3 window farther away from the head of the line and, if so, the relationship between
4 walk time and transaction time would be inverse. Perhaps what Dr. Smith meant
5 to say was that transaction time should be proportional to the number of
6 transactions.⁶⁵ At best, one could say that total walk time might be positively
7 correlated with total transaction time, as both are positively correlated with the
8 number of transactions. There is no basis, however, to argue that walk time and
9 transaction time are proportional or that a walk time proportion should be
10 invariant from day to day.

11 In any event, Dr. Smith attempts to use Table 3 to claim that the day to
12 day variations in walk time are "erratic" at "a number of sites."⁶⁶ But Table 3 just
13 does not support such a claim. Below I use the results from Table 3 to calculate
14 that absolute differences in the walk time percentages that Dr. Smith calculates
15 for those sites that recorded walk time. I also calculate the average value and
16 that shows the average absolute difference in the walk time percentage to be

⁶⁵

In footnote 14, Dr. Smith attempts to assert that variations in the walk time ratio from day to day must be from errors in the data collection process because otherwise different types of customers would have to be served on different days. He claims that this last occurrence -- different types of customers being served on different days -- is unlikely. But such an occurrence is quite likely and is one of the reasons that the Postal Service sampled multiple days at each facility. Moreover, he ignores the possibility that day to day variation in the walk time ratio may be influenced by day to day variations in the ambulatory abilities of the customers.

⁶⁶

See, "Direct Testimony of J. Edward Smith on Behalf of the Office of Consumer Advocate, Docket No R2006-1, OCA-T-2" at 12.

1 less than one half of one percentage point.⁶⁷ This is hardly “erratic,” particularly
2 for a very small magnitude which is hard to measure.

3 Indeed, the fact that walk time can be very small at some post offices also
4 undermines Dr. Smith’s claims that the alleged differences in walk time “call into
5 question the overall accuracy of the **database**.”⁶⁸ Even if there were material
6 differences, this would not at all impugn the overall accuracy of the data base.
7 Walk time is very short and thus very difficult to measure.⁶⁹ This does not mean
8 that transaction times, which are much longer, are equally difficult to measure. In
9 addition, walk time is not part of transaction time, it is not caused by volume and
10 it is a reflection of the physical differences among post offices. It is clearly a
11 tangential variable and not at all important to measuring volume variability. Thus,
12 it is without merit to argue that variations in walk time undermine the accuracy of
13 the database.

⁶⁷ In some sense, his whole argument could be considered “a tempest in a teapot.” Walk time is less than one percent of total time, so either including it or excluding it from transaction time is unlikely to have a material effect.

⁶⁸ See, “Direct Testimony of J. Edward Smith on Behalf of the Office of Consumer Advocate, Docket No R2006-1, OCA-T-2” at 12.

⁶⁹ In fact, in some post offices, walk time was even too short to measure. See, OCA/USPS-T-24-3.

**Absolute Differences in Dr. Smith's Walk Time
Percentage Across Different Days at the Same
Facility**

Location ID	Absolute Difference in Walk Time Percentages
128644	0.0031
98456	0.0121
116806	0.0055
69759	0.0148
27500	0.0006
30442	0.0058
30283	0.0017
118483	0.0050
4881	0.0003
40832	0.0016
127869	0.0013
126721	0.0002
36211	0.0021
4079	0.0147
20171	0.0003
69225	0.0010
70364	0.0148
119685	0.0049
2303	0.0010
120905	0.0044
39717	0.0074
119973	0.0053
123775	0.0035
84745	0.0002
Average	0.0046

Despite his apparent reservations about the accuracy with which walk time is measured, Dr. Smith surprisingly suggests that it should be included in the transaction time regressions. In doing so, Dr. Smith first attempts to expand the definition of a transaction to include walk time.”

⁷⁰ Id. at 20

1 During walk-time; the clerk may be indicating through
2 body language a readiness to serve, may be actually
3 greeting the customer, or may simply be standing and
4 waiting. The approach of the customer requires the
5 clerk to be available and prepared to serve; whether
6 the clerk is actually doing any other meaningful work
7 is irrelevant, for the walk-time procedure requires that
8 the clerk devote time to being present and prepared
9 to serve. Accordingly, customer walk-time should
10 have been included as part of the window service
11 transactions.
12

13 This statement shows that his justification for expanding the definition of
14 walk time is wrong. A review of the above statement shows it to be self-
15 contradictory. Note that at one point in the statement, Dr. Smith admits the clerk
16 may be doing other meaningful work but, at a subsequent point, Dr. Smith argues
17 that the clerk must devote time to being present and prepared to serve. This is
18 contradictory. If a clerk is indeed engaged in other meaningful work, then he or
19 she may well be not devoting that time to being present and being prepared to
20 serve. The contradiction can be demonstrated with a simple example. Suppose
21 a clerk indicates to a customer that he or she is ready for the customer and then,
22 as the customer approaches, the clerk turns and leaves the window to put a
23 previously accepted piece of mail on a belt or in a container, returning in time to
24 meet the customer at the window. This common example violates Dr. Smith's
25 requirement that waiting time is "devoted to being present and prepared to serve"
26 and invalidates his justification for expanding the definition of transaction time.

27 Fortunately, it does not matter whether one accepts Dr. Smith's expanded
28 definition of transaction time or not because it is clear that walk time should not
29 be included in the transaction time regressions.

1 The transaction time regressions are constructed to measure how
2 transaction time varies with changes in the volume of transactions of various
3 types?’ Each observation in the regression includes the combination of recorded
4 transaction time and the volumes of the various transaction types. In addition,
5 there are a series of control variables that attempt to capture non-volume
6 variations in volume.

7 Walk time is determined by the physical characteristics of the post office
8 and the ambulatory abilities of customers; it is not related to the volume of
9 transactions processed in the customer’s visit. Thus, including walk time in the
10 regression is adding a non-volume related amount of time to the dependent
11 variable and such an addition cannot, by definition, improve the estimation of the
12 transaction time coefficients. Because walk time varies from post office to post
13 office, its effect will show up in changes in the site-specific dummy variables
14 included in the regression, not in the transaction time coefficients. Those post
15 offices with higher walk time would see the estimated coefficients on their site
16 specific dummies increase relative to the offices with little or no walk time. In
17 addition, if walking time is measured with some error, as Dr. Smith alleges, then
18 adding it to transaction time is adding non-volume related noise to the dependent
19 variable in the regression.

20 A review of the empirical results of estimating the transaction time
21 equation including walk time demonstrates that its inclusion does not change the

71 This measurement is a critical part of measuring the supply side
transactions variability.

1 variabilities. The results also suggest that there is little unexplained noise in walk
2 time. As Dr. Smith confirms, adding walk time to the dependent variable does
3 not significantly change the transaction time coefficients.⁷² This confirms that
4 walk time is not significantly related to the volume of transactions in a customer's
5 visit. At the same time, including walk time does not reduce the overall fit of the
6 equation (its effects are picked up by the site-specific dummy variables)
7 suggesting that, in contrast to Dr. Smith's claim, walk times are not "erratic." In
8 sum, adding walk time adds nothing to the estimation of the transaction time
9 coefficients and potentially adds a source of inaccuracy. Thus, it should not be
10 included in the regression.

11
12 **C. Dr. Smith's Outlier Analyses are Mechanistic, Ineffective, and**
13 **Excessive. They Should Not Be Used.**

14
15 In Section IV of his testimony, Dr. Smith presents the results of estimating
16 the transaction time model with two different outlier screens.⁷³ They both are
17 based upon my calculation and explanation of "studentized residuals," presented
18 in response to Presiding Officer's Information Request No. 7, Question 7. The
19 first screen removed all observations that have a studentized residual greater
20 than two, and the second screen removes all observations that have a
21 studentized residual greater than three. Dr. Smith recommends using the first
22 screen (eliminate observations with a studentized residual greater than 2.0 in

⁷² See, USPSIOCA-T2-4.

⁷³ See, "Direct Testimony of J. Edward Smith on Behalf of the Office of Consumer Advocate, Docket No R2006-1, OCA-T-2" at 20.

1 absolute value) and presents the second screen solely for "informational
2 purposes."⁷⁴

3 The use of this screen, and the model based upon it, should be rejected.
4 First of all, Dr. Smith provides no reasons for why this screen should be applied,
5 other than my statement that the standard rule for those using this method is to
6 conclude that observations with a studentized residual above 2.0 bear
7 investigation.⁷⁵ However, by his own admission Dr. Smith did not investigate
8 these observations⁷⁶ and instead simply applied the mechanistic rule that lead to
9 dropping a large number of observations. This is in conflict with good
10 econometric practice and Commission guidelines.⁷⁷

11 It is the Commission's understanding that good
12 econometric practice requires that when data are
13 removed from a sample, they are removed because
14 the econometrician has investigated and found good
15 cause for believing that the data are erroneous.
16
17

18 The Commission has made clear that it does not find mechanistic outlier
19 screens to be appropriate, as it believes those screens tend to exclude accurate
20 data and, at the same time, miss potentially erroneous data. Instead, the

⁷⁴ Id.

⁷⁵ See, Response of Postal Service Witness Michael D. Bradley To
Presiding Officer's Information Request No 7, Question 7.

⁷⁶ See, USPS/OCA-T2-5.

⁷⁷ See, PRC Op., Docket No. R97-1, Vol. 2, Appendix F at 28.

1 Commission prefers that as few as possible observations be removed as outliers
2 and expects an explicit review of those **observations**.⁷⁸

3
4 Bradley does exclude a few observations as outliers,
5 but the number is under 1.5 percent. USPS-T-18 at 29.
6 Also, Bradley discussed his exclusion of these
7 observations and analyzed the resulting effects. The
8 Commission considers Bradley's testimony on this
9 issue to be credible and the effect to be relatively
10 small. Further, Bradley's treatment of outliers is similar
11 to that of the Commission in Docket No. R97-1.
12

13 Dr. Smith violates these guidelines by both eliminating a large amount of
14 data (he drops 250 data points, which is over 3 percent of the data) and not
15 investigating the individual observations that he eliminates. As a result, his
16 mechanistic approach not only seems excessive but also ineffective. For
17 example, despite eliminating a large number of observations, Dr. Smith does not
18 eliminate an observation in which 800 individual stamps were sold (the mean
19 number of individual stamps sold is 1.7).⁷⁹

20 Finally, Dr. Smith does not criticize my more conservative approach to
21 dealing with unusual observations and provides no reasons for why his approach
22 is superior. Given the problems described above and no record evidence that
23 the mechanistic outlier screens are preferred, the Commission should reject their
24 use.

⁷⁸ See, PRC Op., Docket No. R2000-1, Vol. 1, at 174

⁷⁹ See, USPS/OCA-T2-8. Note that an outlier screen based upon a studentized residual of 2.0 suffers from similar problems. That screen fails to catch an observation in which 1,440 individual stamps were sold. See, USPS/OCA-T2-7.

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D. None of Dr. Smith's Alternatives are Preferred to the Recommended Model.

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In addition to replicating the recommended model, Dr. Smith presents five variants. Three of those variants should be rejected because they include walk time. Four of those variants should be rejected because they apply mechanistic and unevaluated outlier screens. As a result of these deficiencies, none of Dr. Smith's alternatives are preferred to the recommended model

1 CHAIRMAN OMAS: This now brings us to oral
2 cross-examination.

3 One request for oral cross-examination has
4 been filed, the Office of Consumer Advocate. Mr.
5 Costich, would you begin?

6 MR. COSTICH: Thank you, Mr. Chairman.

7 CROSS-EXAMINATION

8 BY MR. COSTICH:

9 Q Good morning, Professor Bradley.

10 A Good morning, Mr. Costich.

11 Q I'd like to talk about density.

12 A Okay.

13 Q And particularly how it is defined and how
14 it is used. Could you look at page 2 of your
15 testimony?

16 A I have it.

17 Q Particularly lines 7 through 12. In the
18 paper you were quoting here density is defined the
19 same way that you defined it. Isn't that correct?

20 A I would say in a similar way.

21 Q Could you read the last sentence of that
22 quote out loud?

23 A Certainly. "We essentially consider this
24 variable as an environmental variable which captures
25 the heterogeneity of the offices."

1 Q I th the same re son tha ro have
2 included density as a variable in your analysis?

3 A I wouldn't speak for their motivations or
4 their reasons.

5 The reason I included it in my analysis was
6 an essential part of the delivery network, an
7 important cost driver for understanding delivery cost
8 and improves the accuracy of estimating the
9 variability.

10 Q It's not because of heterogeneity of zip
11 codes?

12 A Well, the term heterogeneity of zip codes is
13 a broad term, and in some sense density is a
14 characteristic of the heterogeneity, but it is not the
15 only part of heterogeneity.

16 Q If one were to analyze a single zip code
17 from your data set would one need a density variable
18 in such an analysis?

19 A I don't know what such an analysis would be,
20 what type of analysis one would be doing.

21 Q You have two weeks or about two weeks of
22 data for each of your zip codes, correct?

23 A Uh-huh.

24 Q So if one were to simply use two weeks from
25 a single zip code to study variability.

1 A So you're talking about perhaps estimating a
2 model when you say analysis, like estimating a model?
3 I got it. Okay.

4 So the question was if I was going to
5 estimate a model based upon a single zip code?

6 Q Would there be any need for a density
7 variable?

8 A Yes. It wouldn't necessarily be the same
9 zip code density. Your analysis there would have to
10 be at sort of maybe a route basis. Otherwise you'd
11 only have five or six -- well, maybe six --
12 observations. Maybe 12. Excuse me. Twelve. Two
13 weeks, right? Twelve, which still is way too little.

14 So you'd be forced to do something on a
15 route basis. At that point you'd want to consider
16 whether some other measure might be appropriate.

17 The concept that delivery costs are
18 influenced by the relative density of the stock is
19 still appropriate there too. I would definitely think
20 about it.

21 Q If one had a longer time series for an
22 individual zip, would you need a density variable
23 there?

24 A Well, again I think it depends upon how long
25 the time series is, what the formulation of the model

1 is, what it was you were trying to accomplish with the
2 model. I would certainly consider it, yes.

3 Q Would you want delivery points as a variable
4 in a model like that?

5 A Well, again this is a hypothetical analysis,
6 so hypothetically I would want to consider such a
7 variable, sure.

8 Q If within the individual number of routes
9 that were actually reporting data for a given day
10 varied from day-to-day would you want delivery points
11 as a variable?

12 A We're still in the one zip code world?

13 Q Right.

14 A Well, again, you know, I really don't like
15 to precommit before I've had a chance to think about
16 the modeling analysis I would do, but I certainly
17 would consider delivery points as a possible variable,
18 sure.

19 Q In your original analysis in R2005 --

20 A Okay.

21 Q -- did the routes that were sorting within a
22 zip code vary from day-to-day?

23 A It wasn't so much that the route varied from
24 day-to-day but there were instances where routes did
25 not report, so in the sense to some degree the number

1 of reported routes within a zip code could be lesser
2 on some days than others.

3 Q Did that cause your density variable to
4 vary?

5 A Okay. Not exactly. The way to think about
6 it is the problem as you just described is that if
7 we're thinking about a zip code and we have all the
8 routes in that zip code then the density of that zip
9 code is well defined and the geographic area covered
10 by those routes. Therefore, it's straightforward,
11 similar to the quote that you asked me to read.

12 In the instance where we have less than
13 complete routes then we face our problem because what
14 we're really trying to measure is the density for the
15 geographical area for the routes included in the
16 analysis, the subset of the entire zip code.

17 What I attempted to do to account for the
18 fact that not every day gave me the full number of
19 routes was to weight that density by the number of
20 routes that were recorded that day.

21 That weighting would cause a variation. I
22 don't think it's particularly large, but I think it
23 would have caused some variation in the measure
24 density for those zip codes which did not have a full
25 reporting of routes.

1 Q And would that introduce some variation that
2 is really not there in the sense that the density of a
3 zip code is in fact well defined?

4 A No. I think density as -- well, we haven't
5 yet, but I'm sure we will -- we talk about is a
6 constraint or an environmental variable, and it's not
7 so much the absolute value of the density per se that
8 matters, but whether or not the relative density is
9 appropriately capturing that cost causing
10 characteristic.

11 What I'm trying to say is if I find a
12 regression and I have some variables of interest and I
13 have some control variables I could certainly scale
14 that control variable without affecting the estimate
15 of the variables of interest. You might affect the
16 coefficient on the scale variable, but that's of no
17 concern.

18 Q So it would not affect the coefficient on
19 the other terms?

20 A That's correct.

21 Q Do you have copies of the articles that you
22 cited?

23 A I have the ones that you were kind enough to
24 provide

25 Q The article that we just quoted from I think

1 has a big four on the cover of the articles I gave
2 you.

3 A Okay. Four authors?

4 Q Yes.

5 A Okay.

6 Q Could you look at page 76 of that article?

7 A I have it.

8 Q At the top of the page do you see the little
9 Roman (i)?

10 A I do.

11 Q Could you read aloud the first sentence
12 there?

13 A After the (i) or before?

14 Q After.

15 A After. Okay. "The relationship between the
16 cost, mail volume and geographical variables is more
17 complex than a quadratic approximation between
18 logarithm transformations of the variable."

19 Q Thanks.

20 A Sure.

21 Q Your second quote about density says,
22 "Geographic density is often highlighted as the main
23 factor influencing delivery costs." Do you see that?

24 A That time you read it instead of me.

25 Q We'll split the burden, shall we?

1 A Ok y.

2 Q Did that actually turn out to be the case in
3 that article?

4 A I don't recall offhand.

5 Q Could you look at page 108 of that article?

6 A Sure. This is Dr. Roy's article, I believe.
7 I have it.

8 Q There's a paragraph in the middle of the
9 page that begins, "These initial results..." Do you
10 see that?

11 A I do.

12 Q Could you read that paragraph out loud?

13 A Sure. It's a good way to get these in the
14 record. I'm impressed.

15 "The initial results therefore tell us that
16 population density is not enough of a cost factor --
17 far from it -- to estimate delivery cost. The
18 inclusion of the single variable leads to extremely
19 wide error interval in estimating the cost of outdoor
20 delivery work."

21 Q Thanks. Now, the quote you gave appears on
22 page 105 of this article. Is that right?

23 A It does.

24 Q Could you look at that page?

25 A I've got it.

1 Q There's a table at the bottom of that page
2 that shows the variability of cost with respect to
3 density. Do you see that?

4 A I'm not sure it does show that. I see the
5 table.

6 Q The bottom row is labeled Cost Elasticity.
7 Is that right?

8 A It does say that.

9 Q **And** the table is titled Unit Cost and Cost
10 Elasticity Versus Density at Delivery Points Per
11 Square Kilometer?

12 A That is the title.

13 Q So can we think of those numbers in the last
14 row as variability of cost with respect to density?

15 A No. I mean, you might. I'm not sure that's
16 what they are. I wouldn't accept that necessarily.
17 I'd want to study it first.

18 Q They're small numbers, right?

19 A Again, I don't know what the reference is,
20 and I would hate to say small or large without knowing
21 what they're referring to.

22 Q Well, you're the person who cited this page
23 of the article, right?

24 A If you look at why I cited it, I cited it in
25 the section of testimony that suggested that

1 investigating the role of density in delivery analysis
2 is widely done in the literature.

3 I wasn't citing whether density was an
4 important variable or a large variable or a small
5 variable. You find that after you do the analysis.
6 The point that I was rebutting was the point made that
7 it's theoretically incorrect to even include density
8 in an analysis.

9 This was just an example of someone saying
10 when you're doing your analysis you ought to consider
11 density, and that's what the point was. It wasn't
12 necessarily specific results as it relates to density.

13 Q Well, the quote in your testimony says,
14 "Geographic density is often highlighted as the main
15 factor influencing delivery cost."

16 A That is what Dr. Roy said in his article.

17 Q And the results of his article don't bear
18 that out, right?

19 A I don't know. I would have to look at it
20 carefully. It's a complex article and it's a
21 simulation model and so I don't necessarily have an
22 opinion on that one way or the other, whether he's
23 right or wrong. That's not the point.

24 It's important to recognize that it doesn't
25 have to be the most important factor to still be

1 required in the model. I wasn't asserting that it
2 was.

3 Q Could you look at page 110 of this article?

4 A Certainly.

5 Q There's a table at the bottom of that page
6 that shows volume variability. Is that right?

7 A Not that I see.

8 Q It's Table 4, and it's labeled Unit Cost and
9 Cost Elasticity According to Traffic Per Delivery
10 Point Per Day.

11 A That is the title.

12 Q Traffic here means volume, right?

13 A It might. I think it's some index of
14 volume. I'd have to see. Broadly speaking.

15 I don't know necessarily if it's exactly
16 piece volume the way we think about it when we measure
17 volume variability.

18 Q But the table calls the bottom line Cost
19 Elasticity.

20 A It does.

21 Q And those elasticities are around .8, right?

22 A They are.

23 Q So my understanding of this article would be
24 that volume variability is seven or eight times
25 greater than the cost elasticity with respect to

1 density. Would you interpret it the same way?

2 A Well, first of all this is not an estimation
3 exercise. This is a simulation exercise. What he's
4 done here is he's built a theoretical model which
5 embodies certain ideas and certain concepts. My
6 understanding is certain concepts of how the delivery
7 network is built.

8 He then goes out and parameterizes that with
9 certain selected parameters, then runs some
10 simulations to see how you have variations in these
11 parameters as different conditions change.

12 I think the title of the table you referred
13 to Unit Cost and Cost Elasticity According to Traffic
14 Per Delivery Point Per Day and so, you know, there's a
15 variety of factors here which say when I ran my
16 simulation at different volume levels I got different
17 calculations.

18 It's not clear to me that this necessarily
19 was an estimation of volume variability or an
20 estimation of cost elasticity. Certainly you can
21 calculate it from the model. It may have been an
22 input he put in the model going in.

23 Q Could you look at your -- let's see. Where
24 are we?

25 A I know where you're going. I know where

1 you'r g ing.

2 Q Page 30.

3 A Yes. Yes.

4 Q The quote at the top of the page comes from
5 the same article. Is that correct?

6 A Are we looking at the table? Are you
7 looking at this article? I thought you were going
8 there. No?

9 Q Page 3 of your testimony.

10 A Of my testimony? Sorry. Sorry. Okay.
11 Gotcha. Okay. Yes, I see it now. It comes from --

12 Q The same article?

13 A The same article, different page. Right.

14 Q Could you read the last sentence of that
15 quote out loud?

16 A Why don't I just do the whole quote?

17 Q Okay.

18 A Okay. "The cost function for outdoor
19 delivery work is therefore potentially a five variable
20 function. However, we're going to simplify this
21 function to transform it into a three variable
22 function to make it easier to interpret the result.
23 The simplified function will therein depend solely on
24 the density of delivery points, the grouping index and
25 the average traffic per delivery point per day.'

1 Q Do you know what this grouping index that is
2 referred to here is?

3 A My understanding of it is that a grouping
4 index is a measure of what we would call delivery
5 points per stop.

6 I know you're familiar with when we used to
7 do analysis on the stop levels and so that's my sense
8 of what the grouping index is, some measure of
9 delivery points per stop.

10 Q So is this another kind of density variable?

11 A Well, it's a different environmental
12 variable. Density generally measures some measure of
13 delivery points per area, and this is maybe, to coin a
14 phrase, a measure of intensity because it's talking
15 about the number of addresses at an individual stop.

16 Delivery points at a stop like what we used
17 to call single delivery residential versus multiple
18 delivery residential. Something like that.

19 Q So it might be referring to the notion of
20 NDCBU?

21 A NDCBU, yes. No. Yes. Cluster boxes.

22 Q Right.

23 A Just call them cluster boxes. I don't know
24 that he's specifically referring to a cluster box. My
25 sense of the article is he's referring more to urban

1 areas with either apartment buildings or businesses at
2 one stop as opposed to NDCBU or cluster boxes.

3 Q Well, he's talking about I guess the average
4 delivery points per stop.

5 A The index I think measures like from high to
6 low, like low delivery points per stop to high
7 delivery points per stop, the grouping index.

8 Q Okay. But it is a notion of delivery points
9 per stop?

10 A That's my understanding, yes.

11 Q Could you look at page 108 of that article
12 again?

13 A I have it.

14 Q There's a table at the top of the page that
15 shows variability of cost with respect to this
16 grouping index. Do you see that?

17 A I see it.

18 Q Would you agree that these variabilities are
19 four to five times greater than the density
20 variabilities?

21 A I don't know what these variabilities are.
22 I don't know how you form a variability with respect
23 to an index, so to make that kind of a judgment I
24 think one would have to look at the math.

25 Q Well, is there a difference mathematically

1 between a variable that is computed as delivery points
2 per stop as compared to a variable that is computed as
3 delivery points per unit area?

4 A You'll have to say that one again. Sorry.
5 What was it?

6 Q The ordinary density variable ..

7 A Okay.

8 Q -- is calculated at delivery points divided
9 by area.

10 A Okay.

11 Q And this grouping index seems to represent a
12 concept of delivery points divided by stops.

13 A But I think it's an index number. I don't
14 think it is delivery points per stop. I think it
15 might be an index number that goes from one to five or
16 10, you know.

17 Q Yes. It runs over to the next page and runs
18 up to 15, but don't those numbers mean delivery points
19 per stop?

20 A I don't know that. I thought it was an
21 index number like, you know, the CPR or something. I
22 took it to be an index number from the word index.

23 Q Does the CCSTS database contain data that's
24 analogous to this grouping index?

25 A No.

1 Q Delivery points by mode would not be
2 analogous to this grouping index? One of the
3 variables in the database is curblin delivery points
4 within a zip, right?

5 A Right. There are eight types of delivery
6 points in the data set. I believe my recollection is
7 curb, other -- you probably have them there -- central
8 and foot. No.

9 Q No. Foot is part of other.

10 A Other mode, so it's curb, central, other and
11 NDCBU.

12 Q There you go.

13 A I remembered.

14 Q And you've got four of those for residential
15 and four of those for business?

16 A That's correct.

17 Q Would you agree that curblin delivery
18 points are probably one per address?

19 A No. Maybe you should repeat your question
20 because I didn't give the right answer. Say it again.
21 Sorry.

22 I mean, you obviously thought I didn't give
23 the right answer, so maybe I didn't. Let me try
24 again. Sorry.

25 Q For the most part would you agree that

1 there's going to be one curblane delivery point per
2 stop?

3 A Stop? Is that what you mean? Okay. Yes.
4 I think for address it had to be yes, but I thought
5 you meant stop. For that the answer is no.

6 Q And why is that?

7 A Because I think there are times when
8 curblane boxes are grouped together in one stop. You
9 know, you have a whole bunch of them at one place so
10 that could be one stop, but you could do several of
11 them at once. This would be a case where people have
12 to go across the street to get their mail.

13 Q Well, certainly on a rural route, but is
14 that a frequent occurrence on a city delivery route?

15 A I don't know the frequency. I've seen it in
16 like northern Virginia in my area. It's not
17 particularly rural.

18 Q For one of the neighborhood cluster boxes
19 there would probably be anywhere from 12 to 20
20 delivery points at a stop?

21 A That sounds about right.

22 Q And for central deliveries you might have
23 anywhere from 50 to a couple hundred delivery points
24 at a stop?

25 A Yes.

1 Q And o her deliveries, if we interpret that
2 as being door deliveries, would pretty much have one
3 delivery point per stop?

4 A Don't know. Don't know. I don't know what
5 all is in other. Don't know.

6 Q Is the relative number of these different
7 types of delivery points an important difference
8 between zip codes?

9 A If I understand your question, you're saying
10 are we talking about the proportion of say NDCBU in
11 Zip Code 1 versus the portion of NDCBU in Zip Code 2.

12 I've thought about this issue somewhat. I
13 think it depends upon the zip codes that might be
14 selected for analysis, what the heterogeneity of the
15 delivery characteristics of those zip codes are.

16 In particular, I think if the data set
17 happened to contain some delivery points that were
18 unusually concentrated in one particular NDCBU it may
19 be something that you would investigate. I think it's
20 something that one would want to think about. I don't
21 think there's an easy answer.

22 Q Did Dr. Smith attempt to take that into
23 account?

24 A I believe in his DOIS analysis I recall he
25 ran one version where he included disaggregated

1 delivery points.

2 Q Could you look at page 4 of your testimony?

3 A I have it.

4 Q How is it you're always faster than I am?

5 At lines 9 through 15 this is where you made a

6 correction?

7 A A correction, yes.

8 Q In this article they did not actually use
9 density as a variable. They used the two components
10 of density as separate variables. Is that right?

11 A In the final version that's true. In the
12 preliminary version that I had looked at they did in
13 fact use density -- I didn't make up the quote -- but
14 it didn't survive the editor's cut.

15 Q And could you look down at the bottom of
16 page 4?

17 A I have it.

18 Q Could you read lines 29 to 31 out loud?

19 A Starting with the letter D?

20 Q Yes.

21 A "D) The density of the delivery area of each
22 post office, which is measured by the number of
23 delivery points divided by the length of the route."

24 Q So this is a different version of density,
25 right?

1 A Y s, think o. The article wasn't
2 completely transparent on that, but I got that sense.

3 Q If what they're describing is what was used
4 in the article, it's number of delivery points divided
5 by some linear measure of distance as opposed to --

6 A Square.

7 Q -- an area.

8 A Uh-huh.

9 Q Could you look at page 205 of that article?

10 A Sure. Let's see. This one is cost drivers.
11 I have it,

12 Q I'm looking at the wrong article. Okay.
13 This is the article entitled **An** Analysis of Some
14 Specific Cost Drivers in the Delivery Activity.

15 A Got it.

16 Q There's a Table 3 on that page. Do you see
17 that?

18 A I do.

19 Q It gives an overall cost elasticity with
20 respect to output. Do you see that?

21 A Output being volume?

22 Q It looks like it.

23 A Are you looking at the Overall row?

24 Q Right.

25 A The row that says Overall. Excuse me. Yes,

1 I s e that.

2 Q And that's 88.5 percent variability?

3 A Correct.

4 Q Do you have any sense of why this
5 variability is so much higher than others that you've
6 mentioned or the variabilities you've calculated?

7 A Well, I can tell you what they say. I mean,
8 if you look later on in the article, if you go to page
9 208 and look at Table 7, there they have an elasticity
10 of 59.4 percent, which is still higher than what we
11 found in the last case around the mid 40s, but lower
12 than the 80.

13 What they say -- at least my understanding
14 of what they say -- is the higher variability that you
15 cited was due to the fact of using cross-sectional
16 data; that when you use panel data you would expect to
17 get a lower variability. That's my power phrase of
18 their conclusion.

19 Q If I understand right, they used a translog
20 cost function instead of a quadratic?

21 A Correct.

22 Q Would there be any reason to expect a lower
23 variability simply from that?

24 A No, and in fact I estimated a translog on
25 aggregate variable in my R2005-1 testimony. It came

1 out very similar, ballpark figure, of 41 or 42 percent
2 I think.

3 Q Similar to your other variabilities?

4 A Right. What I'm saying is the quadratic
5 variability and the translog variability on the same
6 data set yield a similar variability.

7 Q Could you look at page 210 of this article?

8 A I have it.

9 Q Under the heading Conclusion could you read
10 out loud the last sentence of the first paragraph?

11 A The one that starts with, "These
12 estimates..."?

13 Q Yes.

14 A Okay. "These estimates indicate that the
15 marginal costs of non-standard-size letters (NSSL),
16 parcels (PAR) and others (OTH) are respectively on the
17 order of two, 15 and 15 times the marginal cost of
18 standard-size letters (SSL)."

19 Q Now, you don't have variabilities or
20 marginal costs like this, do you?

21 A What do you mean by "like this"?

22 Q Your flats marginal cost is almost the same
23 as your letters marginal cost, correct?

24 A You're talking about the relative magnitude?

25 Q Right.

1 A I don't know exactly how these variables are
2 defined. I'd have to go back and see what non-
3 standard -- I think non-standard-size letters are
4 relative to I'm assuming the base is standard letters,
5 but I'd have to go back.

6 I'm not sure I recall, but let's assume it
7 is standard letters. Then what strikes me is
8 certainly I don't think I found two, but the contrast
9 between two and 15 strikes me as right because the
10 marginal cost of parcels is well higher than the
11 marginal cost of letters in my analysis, and that's
12 what they find.

13 Again, is the non-standard-size letter
14 exactly a flat? I don't know if they bundle their
15 letters and flats together in this is the U.K., I
16 think. No. This is France. Sorry. In France.

17 I don't know exactly what those definitions
18 are. It's a little harder to make that kind of
19 comparison, but the fact that it's much smaller than
20 the 15 I find reassuring.

21 Q Could you look at page 5 of your testimony?

22 A Sure. I have it.

23 Q Could you read aloud the last sentence of
24 the quote there?

25 A "The variable CD is introduced in the model

1 as an environmental characteristic."

2 Q And CD is customer density?

3 A Right. If you want to I could read the
4 previous sentence that defines it.

5 Q Okay. Sure.

6 A "CD is the customer density measured as the
7 ratio between the number of customers and the area
8 size measured in square kilometers."

9 Q So this is close to your density variable?

10 A Well, yes, in some sense. If the number of
11 customers is delivery points it would be. If the
12 number of customers is some other measure it wouldn't
13 be, but assuming that the number of customers is
14 delivery points, yes.

15 Q And doesn't that last sentence pretty much
16 sum up what all of the authors you've cited have said
17 about density; that it's an environmental
18 characteristic?

19 A I would be hesitant to sum up all those
20 works with that once sentence. I think some of them
21 said a variety of things as I quoted.

22 Q One of the articles referred to density as a
23 control for heterogeneity of delivery offices. Do you
24 recall that?

25 A I think my recollection was they said that

1 that was the only variable that they had measuring
2 heterogeneity of delivery offices specifically.

3 Q If heterogeneity of delivery offices or zip
4 is something that needs to be controlled for, wouldn't
5 one want to use a fixed effects model to do that?

6 A I don't think one can give a global answer
7 to that question. Again, it would depend upon what's
8 being analyzed. It would depend upon the data set.
9 It would depend upon whether or not you have observed
10 or unobserved characteristics.

11 As you well know, fixed effects are
12 primarily designed to control for unobserved
13 heterogeneity, and in fact if the heterogeneity is
14 observed and I had the variable that measured it then
15 I wouldn't need to do fixed effects.

16 Again, I think one needs to be careful
17 making a global answer to that question.

18 Q Could you turn to page 8 of your testimony?

19 A I have it.

20 Q Here you're developing a simple example of
21 why density needs to be addressed in a model. Is that
22 correct?

23 A Correct.

24 Q I have to say I found this example very
25 useful.

1 A That makes me nervous.

2 Q As well it should. You have two zip codes.
3 They're in a square shape, right?

4 A Right.

5 Q And they have four delivery points?

6 A Uh-huh.

7 Q One at each corner of the square?

8 A Indeed.

9 Q And one of the zip codes is one square mile,
10 and the other one is 100 square miles. Is that right?

11 A Let me see. Yes, one by one and 10 by 10.
12 No, I don't think so. No. I think one is like -- 100
13 times 100 -- 10,000 square miles.

14 Q Let's see. At the top of page 9, okay,
15 you've got one with 10 miles on a side and one with
16 100 miles.

17 A Right. That one would be 100, but the other
18 one I think -- isn't 100 squared 10,000?

19 Q Yes.

20 A Yes.

21 Q Let me alter your example --

22 A Okay. All right.

23 Q -- so that we have a square that's one mile
24 on a side.

25 A Okay.

1 Q And another square that's 10 miles on a
2 side.

3 A All right.

4 Q With a delivery point at each corner of the
5 square

6 A Okay.

7 Q And the delivery office in the center.

8 A All right. Fair enough.

9 Q Now, on page 9 you've got a little table,
10 and basically you've got the smaller zip code is
11 delivering twice the volume in only a tenth of the
12 time required for the other one. Is that right?

13 A Uh-huh.

14 Q And basically you're asking how does one
15 resolve this apparent paradox without appealing to
16 density. Is that a fair --

17 A I don't think I said paradox, and I don't
18 think I posed that question whatsoever.

19 I think what I said here was maybe an
20 inelegant example, but the point of the example was
21 that when delivery points are more disperse it will
22 take more time to deliver the same amount of volume as
23 when they're less disperse ceteris paribus.

24 The example may not be very persuasive at
25 that, but that was the point I was trying to get at.

1 There is a driver of cost or time associated with the
2 disbursement of delivery points in the region, and
3 that's why researchers tend to include density in
4 their analysis.

5 Q Okay. At lines 7 and 8 you say, "If one
6 excluded density from the analysis one would have to
7 explain the following pattern in the data," which is
8 what I described, I think.

9 A Right.

10 Q Twice the volume delivered in one-tenth the
11 time.

12 A Right.

13 Q In this little example it's the route miles
14 that are driving this difference in cost. Isn't that
15 right?

16 A It's the fact that delivery points are far
17 apart is what's causing it. The carrier has to go
18 further to get the same number of stops, and that's
19 what is causing it.

20 Q The way that you've got the time is simply
21 associated with the number of miles that had to be
22 driven, right?

23 A Correct. I think I calculated a very
24 reasonable and safe 40 miles an hour and came up with
25 those times, yes.

1 Q But that's not density. That's just route
2 miles, right?

3 A I'm not sure I understand the question.
4 Density would be a measure of the geographic location
5 of the delivery points.

6 It was my intention with this example,
7 although I put them in the corners to make the
8 computations easier, the point here was just to show a
9 zip code that had its delivery points close together
10 and a zip code that has delivery points far apart.

11 Q But because we know how you developed these
12 times that need to be explained we also know that it
13 can be explained by the length of the route, right?

14 A Well, it's the fact that the carrier has to
15 drive further between the points, so that is the
16 reflection of the density.

17 Q Let's try modifying your example again --

18 A Okay.

19 Q -- or I guess modifying my modification of
20 your example.

21 A Okay. Sure.

22 Q For the large zip, the one that I have as
23 100 square miles, move the delivery points in toward
24 the delivery unit so that they are in the same
25 relative locations as for the small zip.

1 A So you're saying let's pretend that Zip 2 is
2 essentially the same as Zip 1 with a lot of empty
3 space on the outside?

4 Q Exactly.

5 A Okay. Got it. All right.

6 Q In this example the density is still going
7 to be very different between the two zips, right?

8 A Sure.

9 Q But that's not going to explain anything in
10 this situation where in fact the delivery route in
11 each zip is identical?

12 A Exactly why I didn't do that example because
13 it doesn't make the point I was trying to make.
14 Admittedly it's a simple example.

15 Q Yes, but very helpful.

16 A Good.

17 Q Let's try another change.

18 A All right.

19 Q Go back to the two different sized zips with
20 the delivery points at the corners, one large and one
21 small.

22 A Okay.

23 Q For the large zip put a cluster box at each
24 corner with 25 delivery points at each cluster box.
25 Now the large zip has 100 delivery points, and the

1 densi y o ?liverypoints in he two **ips** is going to
2 be the same. Do you follow?

3 A This is very different than my example at
4 this point so I don't follow, but go ahead. It's not
5 at all what my example is referring to. It's a simple
6 point that I was trying to make here.

7 Q I think we can make another simple point.

8 A Okay. Sure.

9 Q If you look at the two squares or if you
10 visualize the two squares, since you've only drawn
11 one --

12 A Okay.

13 Q One square has a single delivery point at
14 each corner. The other square, which is 10 times
15 larger on a side, so 100 times larger in area, has 25
16 delivery points at each corner. The delivery point
17 density for those two zip codes is going to be the
18 same by construction.

19 A Okay. I'll accept that. I didn't do the
20 arithmetic, but I'll accept you did.

21 Q So even though the density is the same,
22 these two zip codes are in fact very different, right?

23 A Well, you constructed them so I would
24 suggest that you constructed an example where you
25 calculated a ratio whereby you could separate distance

1 and number of points in a certain way to get an equal
2 amount of density as I understand the example.

3 Q Right.

4 A Fair enough? Okay.

5 Q I mean, I haven't changed the distance
6 between the original.

7 A Correct.

8 Q I simply increased the number of delivery
9 points at the stops.

10 A Right. You have.

11 Q You would want to control for that, would
12 you not?

13 A Well, again I'm not doing any analysis of
14 this type of zip code. The only thing I'm learning
15 here is perhaps it's not a good idea to give simple
16 examples.

17 This is not what we're saying that the
18 actual issue is in the data. This is trying to
19 illustrate why researchers think density is an
20 important point.

21 In the example you gave you said well, you
22 know, there may be other issues that we need to think
23 about in terms of say the number of routes or the size
24 of the routes, and that's a different issue than I'm
25 trying to illustrate here, but in reality, zip codes

1 don't look like mine or yours.

2 Q There are extreme cases to make points,
3 right?

4 A Both are. That's right. That's right.
5 Fair enough.

6 COMMISSIONER ACTON: Mr. Costich, could you
7 please give us some idea on how much longer you may
8 be?

9 MR. COSTICH: Twenty minutes probably.

10 COMMISSIONER ACTION: How about if we break
11 for lunch and reconvene at 1:30? Thank you.

12 (Whereupon, at 12:25 p.m. the hearing in the
13 above-entitled matter was recessed, to reconvene at
14 1:30 p.m. this same day, Friday, December 1, 2006.)

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1 A F T E R N O O N S E S S I O N

2 (1:30 p.m.)

3 COMMISSIONER ACTON: Mr. Costich? Mr.

4 Costich, shall we begin?

5 MR. COSTICH: Thank you, Commissioner Acton.

6 COMMISSIONER ACTON: Thank you.

7 MR. COSTICH: In fact, I'm almost done.

8 Whereupon,

9 MICHAEL D. BRADLEY

10 having been previously duly sworn, was
11 recalled as a witness herein and was examined and
12 testified further as follows:

13 CROSS-EXAMINATION RESUMED

14 BY MR. COSTICH:

15 Q Professor Bradley, we were discussing I
16 guess you could say geography and demography as it
17 affects carrier costs. Is that a good summation?

18 A I think those are topics we were discussing

19 Q And I think we had sort of agreed that
20 there's more to geography and demography than just
21 density. Would you agree with that?

22 A I don't know that we actually came to any
23 sort of conclusion about that. I think in terms of
24 the issues that drive carrier costs, the point of the
25 analysis that we're trying to look at, my experience

1 and I think the experience of the literature is that
2 things like delivery points and density are thought of
3 as being effective ways to account for those
4 characteristics, and they are widely used.

5 That's not to say that they are exclusive.
6 In fact, I'm not trying to say that there could be no
7 other factors, but I think the practice in this area
8 focuses on those two.

9 Q Can we agree that at least in the examples
10 we discussed this morning density may not always
11 control for the demographic or geographic factors at
12 work?

13 A Mr. Costich, I don't have any testimony that
14 argues that density is the be all and end all, that
15 it's the factor that controls for all these things.

16 The point of my testimony was to rebut Dr.
17 Smith's claim that using density was incorrect, and
18 that's what my example was just trying to suggest; not
19 that it explained everything, but that it is an
20 important part of the story.

21 MR. COSTICH: Thank you. I have no further
22 questions.

23 COMMISSIONER ACTON: Thank you, Mr. Costich.
24 Any questions from the bench?

25 (No response.)

1 COMMISSIONER ACTON: Counsel, would you like
2 a few moments?

3 MR. KOETTING: Thirty seconds, Mr. Chairman?

4 (Pause)

5 MR. KOETTING: Commissioner Acton, we have
6 no redirect.

7 COMMISSIONER ACTON: Mr. Bradley, that
8 completes your testimony here today. Thank you for
9 your contribution to the record. You are dismissed.

10 THE WITNESS: Thank you.

11 (Witness excused.)

12 COMMISSIONER ACTON: Mr. McLaughlin, will
13 you please identify the next witness so I may swear
14 her in?

15 MR. MCLAUGHLIN: Thank you, Commissioner
16 Acton. I am here on behalf of Advo, but also on
17 behalf of the coalition of parties who sponsor the
18 testimony of Antoinette Crowder, so we would call
19 Antoinette Crowder to the stand.

20 Whereupon,

21 ANTOINETTE CROWDER

22 having been duly sworn, was called as a
23 witness and was examined and testified as follows:

24 COMMISSIONER ACTON: Thank you.

25 MR. MCLAUGHLIN: I would note first before I

1 identify the testimony that we did spot a couple of
2 minor corrections that we'll go through in a minute.

3 (The document referred to was
4 marked for identification as
5 Exhibit No. MPA et al.-RT-1.)

6 DIRECT EXAMINATION

7 BY MR. MCLAUGHLIN:

8 Q Ms. Crowder, I've handed you two copies of a
9 document captioned Rebuttal Testimony of Antoinette
10 Crowder on Behalf of Magazine Publishers of America,
11 Advo, Alliance of Nonprofit Mailers, American Business
12 Media, Dow Jones & Company, The McGraw Hill Companies,
13 Mail Order Association of America, National Newspaper
14 Association, Saturation Mailer Coalition and Time
15 Warner, Inc., and that is captioned MPA et al.-RT-1.

16 Was this testimony prepared by you or under
17 your direction and supervision?

18 A Yes.

19 MR. MCLAUGHLIN: You do have a few
20 corrections. I will pass out a document that was
21 filed today with the Commission that lists those
22 corrections. We have also filed with the Commission
23 the final corrected copy of testimony which
24 incorporates those changes.

25 Those changes in fact are incorporated on

Heritage Reporting Corporation
(202) 628-4888

1 the two copies that I handed to the witness. Would
2 you like us to verbally go through those changes or
3 just hand these documents out to parties, who can see
4 the changes? They're really quite minor.

5 COMMISSIONER ACTON: I think distributing
6 the documents to the parties will suffice. Thank you.

7 MR. MCLAUGHLIN: Okay.

8 BY MR. MCLAUGHLIN:

9 Q Ms. Crowder, with the corrections that are
10 identified in the document I just handed out is the
11 rebuttal testimony that you prepared true and correct
12 to the best of your information and belief?

13 A Yes.

14 MR. MCLAUGHLIN: I would ask that MPA et
15 al.-RT-1 be received into evidence.

16 COMMISSIONER ACTON: Is there any objection?

17 (No response.)

18 COMMISSIONER ACTON: Hearing none, I will
19 direct counsel to provide the reporter with two copies
20 of the corrected testimony of Antoinette Crowder.

21 That testimony is received into evidence and
22 is to be transcribed into the record.

23 //

24 //

25 //

1 (The document referred to,
2 previously identified as
3 Exhibit No. MPA et al.-RT-1,
4 was received in evidence.)
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MPA et al.-RT-I

BEFORE THE
POSTAL RATE COMMISSION
WASHINGTON, DC 20268-0001

Postal Rate and Fee Changes,
2006

)
)

Docket No. R2006-1

REBUTTAL TESTIMONY OF ANTOINETTE CROWDER
ON BEHALF OF
MAGAZINE PUBLISHERS OF AMERICA, INC.,
ADVO, INC., ALLIANCE OF NONPROFIT MAILERS,
AMERICAN BUSINESS MEDIA, DOW JONES & CO.,
THE **McGRAW-HILL** COMPANIES, INC.,
MAIL ORDER ASSOCIATION OF AMERICA,
NATIONAL NEWSPAPER ASSOCIATION,
SATURATION MAILERS COALITION
AND TIME WARNER INC.

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testimony to:*

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America, Inc., and Alliance of Nonprofit
Mailers**

November 20, 2006
(Corrected and **refiled** December 1, 2006)

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1 **I. INTRODUCTION, PURPOSE AND SUMMARY**

2 **A. Introduction And Purpose**

3 The purpose of this testimony is to rebut the testimony of OCA witness J.
4 Edward Smith (OCA-T-3) by demonstrating why the Commission should not
5 adopt any of the city carrier out-of-office cost models he presents. Dr. Smith
6 recommends two alternate city letter carrier out-of-office cost models, one based
7 on the USPS 2002 CCSTS data and one based on the DOIS data recently
8 provided in USPS LR L-160. However, neither is an improvement over the
9 Postal Service CCSTS model presented by Dr. Bradley in R2005-1 and used
10 again in this case as a basis for rate development of virtually all postal services
11 and products.

12 **B. Summary And Conclusions**

13 Dr. Smith offers 36 differing city letter carrier delivery (out-of-office)
14 models: 24 differing models from the 2002 City Carrier Street Time Survey
15 (CCSTS) data and 12 from the Delivery Operations Information System (DOIS)
16 data found in USPS LR L-160 (18 models developed in both unrestricted and
17 restricted form). He recommends that the Commission use either his preferred
18 CCSTS model or his preferred DOIS model. Although his two recommended
19 models differ considerably from each other, he does not actually select one over
20 the other.

21 I have reviewed Dr. Smith's testimony and conclude the following:

- 22 (1) Dr. Smith's analysis of the CCSTS data and analyses is superficial, with
23 very little in the way of new evaluation. He conducts no data review of his
24 own. He provides little in the way of a reasoned, conceptual structure for
25 explaining city carrier costs, as a basis for model specification,

1 econometric analysis, and model selection. He simply adopts Dr.
 2 Bradley's quadratic model and changes some of its variables or mix of
 3 variables. His series of models represents a search for a model that lacks
 4 what he calls "sign" problems and satisfies his *a priori* expectations of
 5 results. With respect to econometric issues, his only attempt to deal with
 6 the data multi-collinearity problem is to offer restricted versions of his full
 7 quadratic models (by completely eliminating all cross-product variables).
 8 And he has not made any serious attempt to deal with econometric
 9 problems such as autocorrelation or heteroskedasticity.

10
 11 (2) Dr. Smith does provide three new contributions to the subject of out-of-
 12 office modeling. The first is his misguided discussion on the density
 13 variable. The second is his "DPS case," where he changes Dr. Bradley's
 14 "letter" and "flat" volume variables to a strictly DPS letter variable and a
 15 variable that includes residual cased letters and flats. And, the third
 16 contribution is to combine regular and parcel accountable delivery time
 17 into a total delivery time value and then regress that time against all
 18 volume and control variables. The latter two approaches deserve further
 19 investigation because they are consistent with operational reality.

20
 21 (3) Dr. Smith is correct that the DOIS data, at least superficially, have great
 22 appeal as a long-term panel data set. Unfortunately, they also have
 23 serious deficiencies, including (a) lack of values for important explanatory
 24 variables like collection and accountable mail and (b) lack of differentiation
 25 between SPRs and large packages and among the various shapes for
 26 Priority Mail. Additionally, little is yet known about the quality and
 27 reliability of the data. These deficiencies mean:

- 28
- 29 ■ The DOIS-based models are clearly biased because critical,
 30 explanatory volume variables are absent or incorrectly aggregated.
- 31
- 32 ■ There is no reasonable method for identifying the correct variabilities
 33 for the volumes that are not included or separately defined in the DOIS
 34 database: Priority Mail, SPRs, large packages, collection mail, and
 35 accountable mail.
- 36
- 37 ■ DOIS data quality and reliability are completely unknown. Certain data
 38 quality issues could include major problems such as errors-in-variables
 39 (e.g., bias and inconsistency).
- 40

41 It is not yet known whether these deficiencies are fatal or can be
 42 overcome.

43
 44 (4) In addition to these DOIS-specific deficiencies, Dr. Smith's DOIS data and
 45 models have the same major problems as the CCSTS data and models.
 46 Data from both sources appear to be collinear and heteroskedastic. **Also**

1 autocorrelation within the time series portion of both data sets is a very
2 real possibility, as indicated by Dr. Smith's own analysis. And, like his
3 CCSTS modeling effort. Dr. Smith does not appear to have undertaken
4 any in-depth modeling specification or explanation for his DOIS models.
5 Rather, as before, his work appears **to be** a search for results that fit with
6 his pre-conceived notions.

7
8 (5) As with the CCSTS data and models, I agree with Dr. Smith's numerous
9 comments that much work remains to be done on the DOIS data and
10 models. Whether this work is warranted depends, of course, on whether
11 the potentially fatal deficiencies identified in (3) and (4) above can be
12 surmounted.

13
14 (6) Because of the superficiality of his CCSTS and DOIS analyses, Dr.
15 Smith's two alternate (and disparate) recommended models should be
16 rejected by the Commission. He provides no evidence that any of his
17 results are an improvement over the USPS model used in this case.
18

19 **C. Organization Of The Remainder Of This Testimony**

20 There are three remaining sections to this testimony. Section II addresses

21 Dr. Smith's comments on the CCSTS data and USPS-proposed model using
22 those data. It also briefly discusses Dr. Smith's efforts to use the CCCSTS data
23 to develop alternative models. Section III discusses Dr. Smith's proposal to use
24 the DOIS data and his efforts to use that data to develop alternative models.
25 Section IV explains that the major problems that Dr. Smith claims afflict the
26 CCSTS data and models also afflict the DOIS data and models.

1 **II. DR. SMITH'S COMMENTS ON CCSTS DATA AND MODELING HAVE**
 2 **SOME MERIT BUT ARE NOT BASED ON ANY IN-DEPTH ANALYSES**

4 **A. Dr. Smith's Critique And Model Recommendation**

5 Dr. Smith offers a brief critique of the CCSTS data and the quadratic
 6 models that USPS witness Bradley developed from them. Dr. Smith identifies
 7 three over-arching issues with respect to the CCSTS data and model:¹

- 8 ■ Flaws in the CCSTS data, identified in the Commission's analysis in its
 9 R2005-1 Opinion and Recommended Decision.
- 10 ■ Multi-collinearity among the explanatory variables, evidenced by certain
 11 coefficients with the wrong signs and/or with very high Variance Inflation
 12 Factors (VIFs), and marginal cost results that are not expected on an *a*
 13 *priori* basis?
- 14 ■ Ad-hoc specification of the model, including the use of density as an
 15 explanatory variable.

16 He states that he believes that it is not clear that "meaningful conclusions" can be
 17 obtained from the use of the CCSTS data principally because of the "significant
 18 multicollinearity problems."³

19 Despite those serious problems, however, he presents 24 different models
 20 (12 in unrestricted and restricted form) using Dr. Bradley's quadratic model
 21 specification, with some variation in the explanatory variables used, and using
 22 the very same CCSTS data used by Dr. Bradley. Of his 24-model effort, he
 23 states:

24 "The analysis effort has illustrated the problems of collinearity associated
 25 with the appearance of unexpected signs and high VIF values. . . .

¹ OCA-T-3, pages 3-8.

² The wrong sign means that the coefficient for an explanatory variable is positive when expected to be negative, or vice versa.

³ OCA-T-3, page 3, lines 8-10.

Whether the effort was also hampered by an inadequate model is unknown. However, given the problems of the underlying database as evidenced by the types of results obtained it appears that the Carrier Cost analysis presented in Docket No. R2005-1 is flawed and that additional analysis is needed. Pending additional analysis, I recommend the use of the unrestricted variability case of CC5." (OCA-T-3, page 15, lines 3-9)

He recommends his CC5 full quadratic model (as the regular delivery model) because: "the restricted version of CC5 appears to be slightly better than witness Bradley's case, based solely on the breakout between DPS and other letters. However, the full quadratic version of equation 5 is more general and is the equation recommended."⁴ The full quadratic model he prefers contains separate variables for DPS letters, cased letters and flats (included as one variable), and sequenced volume. It also excludes Dr. Bradley's density variable, which Dr. Smith concludes is inappropriate.

B. Dr. Smith's Analysis Is Superficial And Incomplete

(1) Dr. Smith Has Not Independently Reviewed The CCSTS Data Base

In actuality, although Dr. Smith has had access to the CCSTS data since it was introduced in R2005-1,⁵ he does not appear to have performed an independent evaluation of the CCSTS data or any serious modeling. With respect to review or testing of the CCSTS database, he has simply relied upon the Commission's R2005-1 analysis.⁶ But, even so, he has not attempted to perform any independent data culling, cleaning, segmentation, outlier analysis, or

⁴OCA-T-3, page 14, lines 17-20.

⁵ Response to USPS/OCA-T3-21.

⁶ Responses to ADVO/OCA-T3-1, 2, 24(c).

1 any other database modifications in an attempt to improve the data quality or
 2 understand the information contained in the data.

3 With respect to his modeling effort, he has simply adopted Dr. Bradley's
 4 quadratic structural specification and, for each of his alternatives, deleted and/or
 5 made changes in the original variables or mix of variables, searching for a model
 6 that avoids what he calls "sign" problems and also satisfies his *a priori*
 7 expectations of results. By his own admission, he clearly has not developed an
 8 appropriate conceptual structure to determine the most important cost causal
 9 variables and how these variables should be combined to explain city carrier
 10 street costs in particular model specifications. Further, lacking that structure, he
 11 has been unable to test specified models through using the appropriate statistical
 12 indicators to determine if model results comport with expected city carrier cost
 13 behavior.⁷ Thus, despite the amount of calendar time that he has had available,
 14 he has not run any really new or useful specifications other than those identified
 15 in this section.*

⁷ See Dr. Smith's responses to ADVO/OCA-T3-15(e) and 24 where he states that he has not developed either an appropriate economic specification for a city delivery cost model or even yet developed suggestions for one. Further, several of his CCSTS model alternatives reflect concerns on the impact of the differences between the CCSTS and DOIS data rather than specific attempts to develop an improved CCSTS model. Thus, he runs CCSTS models with and without collection volume, with SPRs separate from larger packages and then SPRs and packages combined together; with all "delivery" time and volumes combined vs. separate "regular delivery" and "parcel accountable" delivery models. Response to ADVO/OCA-T3-12. See also Section II (and, in particular, Section II.B) below.

⁸ Response to ADVO/OCA-T3-3. In that response, Dr. Smith lists one minor model modification involving the use of a "small packages" dummy variable, apparently in an effort to deal with the negative SPR variabilities. See also responses to USPS/OCA-T3-14 and -15 where he states that he did not estimate fixed effects or route-level models because he depended upon the documentation in R2005-1. Further, he states that given the limited time available for analysis, he could not have preformed such a review. (See also MPA/ANM/OCA-T3-25 where he states generally that he did not try any other functional forms.)

1 With respect to the problem of autocorrelation, he has correctly raised the
2 issue but left it unresolved.⁹ He does not even refer to the heteroskedasticity
3 issue mentioned by Dr. Bradley in R2005-1¹⁰ but reports heteroskedasticity-
4 consistent (HC) standard errors (and t-statistics) for his recommended model.
5 Dr. Smith does not, however, report the same statistics for any of his other
6 CCSTS models. Thus, he cannot correctly rely on those statistics to evaluate his
7 other models.”

8 With respect to the multi-collinearity issue, his only attempt to deal with
9 this problem is simply to offer restricted versions of his full quadratic models.
10 Effectively, these restrictions assign zero values to all cross-product variables in
11 all his model versions. Of course, to the extent that these variables are collinear
12 with the remaining model variables, coefficient estimates for all his restricted
13 models are biased. It is true that dropping variables from models reduces the
14 multi-collinearity problem and can increase the efficiency (reduce the variance) of
15 the remaining coefficient estimates. But, such a procedure should be employed
16 with care and requires much more careful examination and judgment of model
17 results than Dr. Smith appears to have exercised.

18 Finally, because he does not appear to have attempted to understand
19 what the CCSTS data are telling him, he has interpreted various model results by

⁹ On page 22 (lines 17-19), he states that he attempted a variety of possible adjustments to correct for autocorrelation but none yielded satisfactory results. However, in response to USPS/OCA-T3-19, he could not make a list of the attempted adjustments and had discarded the results of those attempts since they had minimal consequence and since Dr. Bradley had not discussed the subject.

¹⁰ R2005-1, USPS-T-14, pages 33-34.

¹¹ See also response to MPA/ANM/OCA-T3-4 and 5

1 relying on pre-conceived notions rather than determining how well they explain
2 and fit the data.” Economic principles should always be used to select and
3 structure explanatory variables. Once these steps are accomplished, models
4 can be specified and the corresponding econometric results generated and
5 evaluated using the appropriate set of diagnostic tools (t-values, variance
6 inflation factors, etc.).

7 **(2) Dr. Smith’s Analysis Of The Density Variable Is Incorrect**

8 Dr. Smith introduces the misguided notion that the density variable is an
9 output rather than an input to the city carrier cost modeling process. However,
10 this notion is wrong. Density is a key explanatory variable in a city carrier
11 delivery model. It is required to control for cost effects from variations in
12 distances among delivery points. Eliminating this variable will automatically bias
13 coefficients for all volume variables.

14 Dr. Smith appears to believe that the density variable is endogenous to
15 the city carrier street time cost minimization process that he claims is crucial to
16 recognize in model development.¹³ So, although he ran model versions that
17 included Dr. Bradley’s density variable, he simply discarded these versions from
18 any further consideration when determining which models to recommend.

19 However, Dr. Smith ignores operational realities. There are three principal
20 workload variables affecting city carrier costs: volumes, possible delivery points

¹² See, e.g., OCA-T-3, page 3 (lines 7-8) and response to USPS/OCA-T3-5.

¹³ OCA-T-3, page 6 (lines 9-11). When asked, he is unable to provide an unequivocal definition of how he construes the term density as an “output” of city carrier zip-day models rather than an input. He states We do not have a measure of the density on a route, which might be different from the overall density in the ZIP code.” See responses to USPS/OCA-T3-26 and ADVO/OCA-T3-7.

1 and square mileage describing a delivery unit's service territory. The latter by
2 definition is ZIP-code square miles. Postal managers reconfigure and add routes
3 as necessary to minimize costs, subject to any operational constraints (daily
4 carrier hours for example). In this route restructuring, they are responding to
5 changes in these three primary variables.

6 The density variable as used by Dr. Bradley is just a combination of two of
7 the primary workload variables: ZIP-code possible deliveries divided by ZIP-code
8 square miles. Higher densities, so defined, lead to more delivery point
9 "crowding" per square mile of service territory and therefore reduce average
10 distances carriers need to travel between any two contiguous delivery points. So
11 for any given number of delivery points, higher densities should lead to lower
12 overall run times, on average, and therefore lower total regular delivery times.
13 This is in fact what Dr. Bradley's preferred restricted quadratic model for regular
14 delivery time indicates.

15 Further, postal managers change the number of routes to minimize total
16 delivery time and balance workloads among carriers in response to changes in
17 density, volume and possible deliveries. In other words, the re-optimization
18 effect from changes in any of these variables is correctly subsumed within the
19 three fundamental workload variables that Dr. Bradley includes in his analysis.
20 The models are complete in this respect.

21 Clearly, changing the models to reflect instead some nebulous concept of
22 density as a response to optimization rather than an input to optimization, as Dr.

1 Smith proposes, would mis-specify the cost effects from the three fundamental
2 input variables.

3 (3) **Dr. Smith's Other CCSTS Modeling Contributions**
4 **Should Be Explored**
5

6 Besides his misguided recommendation to eliminate the density
7 variable, Dr. Smith offers two other new modeling contributions. His second is
8 his "DPS case" set of regressions. In these, he changes Dr. Bradley's "letter"
9 and "flat" volume variables to a strictly DPS letter variable and a variable that
10 includes residual cased letters and flats. This approach should be further
11 explored because it is based on actual carrier operations.

12 His third contribution is to sum regular and parcel/accountable delivery
13 time into total delivery time and regress this variable against all explanatory
14 variables, including collections and accountable volumes (rather than separating
15 *the* analysis into a "regular delivery" model and a "parcel/accountable" model).
16 This approach also bears further investigation. In particular, it comports with
17 operational reality by explaining all delivery costs as a function of all volume
18 variables and the necessary control variables (possible deliveries and density).

C. **Dr. Smith's Testimony On CCSTS And His Model Recommendation Should Be Rejected**

In sum, it appears that Dr. Smith either did not have the time or did not take the time to look into any of these data and modeling features. By his own admission, Dr. Smith has provided no evidence that his CCSTS model recommendation is any better than Dr. Bradley's model. Instead, with respect to all 24 CCSTS models he presents, he agrees that all are inadequate or possibly inadequate. His CCSTS model recommendation should also be disregarded as inadequate.¹⁴

However, he describes issues that surround the CCSTS models and explains why there is a need for a more complete analysis of all the city carrier data and models. Indeed, to his credit, much of Dr. Smith's testimony demonstrates that he recognizes that he has provided only a superficial analysis and that much necessary investigation of the 2002 CCSTS data, its 2004 update and modeling efforts using both data sets has been left undone:

- "My testimony on the methodology of the original City Carrier cost model . . . concludes that additional improvements in the estimation of City Carrier volume variability and data availability are needed." (OCA-T-3, page 2, lines 11-16)
- ". . . it is not clear that meaningful conclusions can be obtained." (Id., page 3, lines 9-10)
- "Further specification or explanation of an economic model would be appropriate." (page 8, lines 23-24) "Future work could consider whether some type of economic model, involving minimization of costs subject to some type of constraint could be developed. I have not yet used or examined all of the variables which could be considered. and whether currently unused

¹⁴ OCA-T-3, page 15 (lines 5-6) and response to ADVO/OCA-T3-15. Dr. Smith admits that he has not yet developed the appropriate economic specification for the city carrier out-of-office model. (See footnote 7 above.) Thus, he recommends his CCSTS model without even establishing his own criteria prior to making his selection.

1 variables could be combined with alternative models is an interesting issue."
 2 (Id., page 21, lines 7-11)

3
 4 ▪ "Depending on further research and development of postal delivery economic
 5 analysis it is possible that additional variables may be found to be
 6 appropriate." (Response to ADVO/OCA-T3-10(b)). . . [W]e need more
 7 consideration of the underlying theoretical justification of the modeling effort
 8 as well as additional consideration of statistical and econometric issues."
 9 (Response to ADVO/OCA-T3-15)

10
 11 ▪ "However, given the problems of the underlying database as evidenced by
 12 the types of results obtained it appears that the Carrier Cost analysis
 13 presented in Docket No. R2005-1 is flawed and that additional analysis is
 14 needed." (OCA-T-3, page 15, lines 6-8)

15
 16 ▪ "An area for future research will be autocorrelation issues." (Id., page 22, lines
 17 18-19)

18
 19 ▪ "In performing the modeling effort I considered a wide variety of alternatives
 20 to the equation proffered by witness Bradley in the modeling of City Carrier
 21 activities. These efforts frequently encountered sign problems, probably due
 22 to the underlying deficiencies of the database. Collinearity of the database is
 23 a problem, apparently making the application of a full quadratic model very
 24 difficult. In consideration of restricted quadratic models, one frequently
 25 obtains relationships among the costs that, on an a priori basis, do not appear
 26 to be reasonable. Accordingly, I advocate that the Commission view Carrier
 27 Cost volume variability as an open question: improvement is needed." (Id.,
 28 page 23, lines 7-15)

29
 30 ▪ "The estimation of econometric models using ZIP Code-Day data is
 31 consistent with optimization taking place at the ZIP Code level. Whether a
 32 better or different model could be developed and how such a model would be
 33 estimated has not been determined." (Response to USPS/OCA-T3-15(e))

34
 35 All of these statements highlight the need for much more exploration of city

36 carrier costing data and modeling issues. In that respect, I agree with Dr. Smith's

37 call for more investigatory work.

1 **III. THE DOIS DATA AND MODELS PRESENTED BY DR. SMITH ARE**
 2 **NOT AN IMPROVEMENT OVER THE CCSTS DATA AND MODELS**

4 A. The DOIS Data Analysis And Modeling Are In The Beginning
 5 Stages

7 The **OCA** has developed a considerable interest in being able to use data
 8 from the ongoing USPS Delivery Operations Information System (DOIS). This
 9 interest is understandable since **DOIS** apparently has daily information on zip
 10 codes and city routes, covers the vast majority of delivery zones and city carrier
 11 routes, has been in existence now for several years, and is continually updated.
 12 It provides an opportunity to use an extensive cross-sectional and time-series
 13 panel without having to burden data collectors or carriers with considerable
 14 sampling and testing. Such a database seems attractive and should be carefully
 15 investigated.¹⁵

16 According to Dr. Smith, the **OCA** requested DOIS data for 125 zip codes
 17 over 16 quarters. However, he has had the DOIS data only since July 21 of this
 18 year and, between then and when the **OCA** direct case was filed, there simply
 19 has been insufficient time to do any conclusive analysis:

20 "The database has only been available for a short time, and significantly
 21 more time would be required for a thorough analysis. Due to the limited
 22 amount of time, I have been able to apply minimal quality control
 23 procedures and have not yet made full use of all the data." (**OCA-T-3**,
 24 page 16, lines 7-10)
 25

¹⁵ There is little on the record now concerning DOIS. For example, there is no information on the type of city carrier routes included in DOIS (e.g., letter, special purpose, or both), how the DOIS data collection has changed over time, DOIS standardization and quality control procedures, or how to interpret zero time or volume data for a zip-route-day not a holiday or Sunday. See responses to ADVO/OCA-T3-33-35, 3740. **Also**, there is little information in the record concerning how DOIS route-day time and volume variables are now, and have been in the past, measured, collected, defined, standardized or handled for quality control. Responses to ADVO/OCA-T3-45, 47, 53.

Still, he offers twelve quadratic-equation models using the DOIS data (six in unrestricted and restricted form). These models are specified generally in the same structural form as the CCSTS models he presents (full and restricted quadratic containing volume, possible delivery point and, sometimes, density variables). However there is one major difference in the modeling approach. In the DOIS models, Dr. Smith uses total carrier street time as the independent variable, while in his CCSTS models he uses regular carrier street time as defined by Dr. Bradley in his own CCSTS models.¹⁶ Further, in many of his DOIS models, similar to his CCSTS models, Dr. Smith finds "sign problems" or marginal costs that do not fit his *a priori* expectations.

B. The DOIS Data Have Serious (Perhaps Fatal) Deficiencies

Despite the value of having long-term panel data like DOIS, the database is deficient in several respects:

- There is no differentiation between SPRs and large packages, which clearly are handled differently by city carriers.
- Priority Mail is a single volume variable within DOIS although it is, in fact, composed of mixed shapes.¹⁷
- Collection volume data are lacking."
- Accountable volume data are lacking.¹⁹

¹⁶ Regular carrier street time in the CCSTS includes only the time during which the carrier is servicing a delivery sections. It excludes drive time between the route and the delivery office, drive time among delivery sections, and other miscellaneous time.

¹⁷ Dr. Smith recognizes this problem. See response to ADVO/OCA-T3-21.

¹⁸ Dr. Smith downplays this deficiency by noting that the CCSTS collection volume variable is representative of the 2002 time period and therefore cannot reflect a more recent Postal Service offering called "It's a Pickup," whereby customers can request that city carriers pick up packages on their regular delivery routes. So, *he* simply states that "...the collection volume variability developed by witness Bradley appears now to be irrelevant." (OCA-T-3, pages 21-22. quote from page 22 (lines 1-3)) I disagree with this comment. At least Dr. Bradley's analysis accounts for the cost of regular collection volumes.

- 1
- 2 ■ There is no information on the quality a the data or on the quality contrc s
- 3 applied to the data (both dependent and independent variables). In total,
- 4 Dr. Smith's own preliminary quality control procedures eliminated over
- 5 33% of the route-day observations and that does not bode well for the
- 6 quality of the data.²⁰
- 7

8 These deficiencies mean that the DOIS model results are incomplete,

9 biased, and unsuitable for developing marginal cost and volume variability

10 estimates. First, because collection and accountable volumes are missing, the

11 marginal costs and variabilities for these volumes cannot **be** estimated from a

12 **DOIS** model. This shortcoming also means that the estimated coefficients for the

13 included volume variables are over-inflated because of positive correlation

14 between the missing and included volume variables." Second, by lumping

15 together priority mail, large packages, and **SPRs** into one variable, Dr. Smith

16 ignores shape-related and handling differences among these mail categories.

17 He acknowledges that the coefficient estimates related to the resulting summed

18 volume variable must be an "average" of cost effects and therefore biased."

19 This bias means that not only will estimated marginal costs and variabilities for

¹⁹ In response to ADVO/OCA-T3-22, Dr. Smith attempts to minimize this problem by stating that there are relatively small amounts of accountable volume. However, accountable volume, when present, involves considerable carrier time (compared to other types of volumes) and may be particularly concentrated on certain types of routes.

²⁰ This is calculated from Table 3 of OCA-T-3 (.334 = 1 - 492,097/739,396). A majority of the route-day observations were apparently discarded due to **zero** delivery time or observations where ZIP codes did not match. And, if I understand his response correctly, roughly 36% of the route-day observations that were used in the models were corrected in some way through his quality control procedures. (.358 = 176,390/492,097) Response to MPA/ANM/OCA-T3-10.

²¹ Apparently, Dr. Smith agrees that the marginal cost and volume variability estimates for letters, flats and sequenced mail from the DOIS models are overstated due to the influence of the missing volume variables. See response to ADVO/OCA-T3-20.

²² See response to ADVO/OCA-T3-21

1 **SPRs**, large packages, and priority mail from his model be distorted, but also that
 2 the coefficients for the remaining volume variables (letter, flat, sequence mail) will
 3 be further biased to the extent that the summed pieces correlate with the
 4 disaggregated **volumes**.²³

5 Third, because the DOIS data include all city carrier street time, the **DOIS**
 6 volume variabilities calculated by Dr. Smith are relative to this total time.
 7 Therefore, proper procedure requires volume variable costs to be calculated by
 8 multiplying total city carrier street costs by the indicated variabilities from his
 9 recommended DOIS model. However, the missing volume variabilities for
 10 collection and accountable mail and consequent overstatement of the remaining
 11 volume variabilities mean direct application of this procedure is **incorrect**.²⁴

12 Fourth, there are potentially other data **quality/reliability** issues that have
 13 not even been identified. For example, Dr. Smith's handling of missing volume
 14 data has potentially created a well-known bias and inconsistency problem called
 15 **errors-in-variables**.²⁵ Until all substantive data quality issues have been explored

²³ In other words, coefficients for the included volume variables will be biased from **two** sources: the missing collection and accountable volumes, and the summing together of small parcel, large parcel and priority pieces into one variable.

²⁴ There is some confusion on this subject. In response to USPS/OCA-T3-1, Dr. Smith states that the DOIS model variabilities **should** be applied to street time minus travel time. However this calculation seems incorrect since DOIS out-of-office time likely includes travel time. In a clarifying response to USPS/OCA-T3-24, he revised that to street time on regular routes, reduced by time for the accountables portion. In his response to USPS/OCA-T3-25, he also recommended that 100 percent of the accountables time be attributable to accountables volume because such time is incremental to ~~accountable~~.

²⁵ When there was a volume or delivery point variable with no value. Dr. Smith set it to zero. (Responses to MPA/ANM/OCA-T3-6-10) Dr. Smith admits that he lacked sufficient time to **do** extensive quality checks, but in response to MPA/ANM/OCA-T3-9, he glosses over his treatment by stating: "It is well known that with substantial amounts of data various data errors do not preclude obtaining regressors that are unbiased." However, Dr. Smith is incorrect on this matter. This is an example of the well-known error-in-variables problem that afflicts models with random errors in explanatory variables. Specifically when there are such errors. estimates for coefficients

1 and corrective actions taken as necessary, DOIS model results will remain
2 suspect.²⁶

4 IV. THE CCSTS AND DOIS DATA AND MODELS HAVE THE SAME 5 MAJOR PROBLEMS

7 Dr. Smith criticizes the CCSTS data as subject to data quality issues.

8 Further, he claims that such data are collinear and therefore cause sign problems
9 and unexpected marginal cost relationships in the resultant models. He also
10 criticizes the CCSTS models as being “ad hoc” and requiring better specification
11 and explanation.

12 However, Dr. Smith extends his criticism to the DOIS database as well.

13 He admits that the CCSTS and DOIS databases might each have an auto-
14 correlation problem. He also implies in his reporting of model results that each of
15 the data sets are heteroskedastic.” He also admits to collinearity in the DOIS
16 data as well in discussing “sign problems” and unexpected marginal cost
17 relationships estimated from his DOIS models

(regressors) will be biased because of correlation between the observed (uncorrected) independent variable and the random error term explaining variations in the dependent variable. *See* Pindyck and Rubinfeld, *Econometric Models and Economic Forecasts*, Third Edition, McGraw-Hill. 1991, pages 159 –161.

²⁶ In response to ADVO/OCA-T-3, Dr. Smith states that he did perform some data cleaning and testing on the DOIS data: a number of data points were eliminated to remove duplication and cases with delivery time equal to zero. For missing data other than delivery time, he set missing values to zero rather than eliminating the observations. He tested for outliers but did not retain the test.

²⁷ Dr. Smith calculated heteroskedasticity-consistent (HC)-values for his recommended models and presents these in Tables 2 and 4 in his testimony. However, he fails to report HC t-values for all other non-recommended CCSTS and DOIS models. Also see responses to MPA/ANM/OCA-T34 and 5.

1 Although I see many of the same problems in both the CCSTS and DOIS
2 data that Dr. Smith recounts, it is clear that the DOIS data and models contain
3 several additional problems that might prove fatal. At a minimum, future use of
4 the **DOIS** data for city carrier modeling requires the addition of collection and
5 accountable volumes, and disaggregation of parcel volumes into large and small
6 parcel components. Without these changes, all DOIS city carrier models will
7 remain tainted.

8 Further, in regard to Dr. Smith's DOIS models, I see no major effort yet in
9 specification or explanation. Rather, I see a search for results that fit with pre-
10 conceived notions. The best evidence of this is the fact that his recommended
11 **CCSTS** and DOIS models are very different because they are both essentially
12 chosen on the basis of statistics and expectations rather than on the basis of
13 operational concept:

- 14 • The recommended CCSTS model is a full quadratic with separate DPS
15 letter and residual cased letter and flat variables. It has an SPR
16 volume variable, a collection mail volume variable, a total possible
17 deliveries variable, and does not have a density variable. And, it
18 explains only "regular delivery time." as defined by the USPS in
19 R2005-1.
- 20 ■ The recommended DOIS model is also a full quadratic. But its letter
21 variable is total DPS plus cased letters. It does not have collection and
22 accountable mail volume variables and has a "parcels" variable that
23 includes SPRs, packages, and Priority Mail. It also has no density
24 variable and, instead of a total possible deliveries variable, there are
25 four possible deliveries variables by delivery type. Finally, it explains
26 all city carrier out-of-office time.
27
28

1 From a conceptual viewpoint, the “either/or” recommendation of these two
 2 disparate models simply does not make sense.²⁸ Most telling is Dr. Smith’s
 3 comment in response to **ADVO/OCA-T3-15(e)** stating that he has not yet
 4 developed suggestions as to how to correctly model the city delivery function
 5 (apparently regardless of the which database is used)²⁹ and his admission that
 6 he has just begun his modeling effort with the DOIS data:

7 “Turning [to] the **DOIS** analysis, I have made some progress in
 8 demonstrating that the database can generate a better analysis. . . . I have
 9 not yet determined whether additional conclusions can be developed from
 10 the database, but further analysis of the DOIS database is an area of
 11 inquiry that seems promising. . . .” (OCA-T-3, page 23, lines 16-23)

12 There is no way Dr. Smith can claim that his preliminary DOIS results can
 13
 14 be better than the results the Postal Service provides in this case (or even better
 15 than the CCSTS results he also recommends). Therefore I recommend that the
 16 Commission reject both of Dr. Smith’s recommended models and accept the
 17 results that the Postal Service has proposed for this case.

²⁸ In response to **ADVO/OCA-T3-15(c)**, Dr. Smith states that his particular cost model concept included the separate DPS letter variable, although that feature is not included in his recommended DOIS model.

²⁹ See also his response to **ADVO/OCA-T3-24** where he states that he has not had sufficient time to develop an appropriate economic specification for a city delivery cost model.

AUTOBIOGRAPHICAL SKETCH

My name is Antoinette Crowder. I am a principal with Eagle Analytics LLC, an economic and financial consulting firm located in Alexandria, Virginia. I specialize in regulatory policy, economics, and finance, particularly with respect to Postal Services. I have been involved in this type of consulting for over thirty-three years. Over all that time, I have been involved in a variety of projects dealing with costing, pricing, market and demand studies, economic and financial analyses, survey design, and research on numerous regulatory and policy issues. These activities have concerned the electric power, gas, communications, and postal/publishing industries. I have prepared or assisted in preparing numerous filings at various federal and state regulatory agencies on behalf of numerous clients. In addition, I have provided overseas consulting activities, providing financial, economic and regulatory assistance to multi-national organizations, international firms, and national governments.

I have been involved in postal ratemaking and policy issues since the beginning of the R77-1 rate case. My work has included analysis of revenue requirement, cost attribution and distribution, subclass rate structure and discounts, institutional cost allocation, service-quality measurement, demand and market assessment, and mail classification issues.

I have testified before the Postal Rate Commission in nine proceedings and have contributed to development of other testimony presented to the Commission. In Docket R84-1, I contributed to the mail processing peak-load and second-class intra-SCF discount testimony. In Docket R87-1, I contributed

1 to testimony on city carrier-out-of-office costs and third-class/fourth-class Bound
2 Printed Matter drop-ship discounts, and I also prepared and presented rebuttal
3 testimony on third-class presort discounts. In Dockets C89-3/MC89-1, I helped
4 prepare and presented direct testimony on the proposed local saturation
5 subclass. In Docket R90-1, I assisted in preparation of city carrier out-of-office
6 cost and institutional cost coverage testimony and prepared and presented
7 rebuttal testimony on third-class rates. In the R90-1 Remand, on behalf of a
8 third-class mailer's group, I presented two pieces of rebuttal testimony in Docket
9 R94-1 and rebuttal testimony in MC95-1. In Docket R97-1, I presented testimony
10 in response to Presiding Officer's Notice of Inquiry No. 3 on city delivery carrier
11 load time costs and rebuttal testimony on carrier costs and rate design issues. In
12 Docket R2000-1, on behalf of several mailers and mailing groups, I presented
13 testimony on city delivery carrier costs. I also presented rebuttal in that docket
14 concerning ECR rates. In R2005-a, I presented rebuttal on ECR rates.

15 Over the course of my 30-year involvement in postal ratemaking matters, I
16 have had numerous opportunities to observe postal operations and analyze their
17 cost aspects. I have also become familiar with economic costing and pricing
18 concepts, both generally and as applied to postal ratemaking.

19 My education includes a B.S. in Biology from the University of Virginia, an
20 M.S. in Biology from George Mason University, and additional course work in
21 economics, statistics, and mathematics.

1 COMMISSIONER ACTON: This brings us to oral
2 cross-examination.

3 One party has requested oral cross-
4 examination, the Office of Consumer Advocate. Mr.
5 Costich?

6 MR. COSTICH: Thank you, Commissioner Acton.

7 CROSS-EXAMINATION

8 BY MR. COSTICH:

9 Q Good afternoon, Ms. Crowder.

10 A Good afternoon.

11 Q Could you look at page 6 of your testimony?

12 A Okay.

13 Q Lines 3 through 7.

14 A Yes.

15 Q You say here that Dr. Smith simply adopted
16 Dr. Bradley's quadratic structural specification. Is
17 that a criticism?

18 A It's a description of what he did.

19 Q You also say that for each of Dr. Smith's
20 alternatives he deleted and/or made changes in the
21 original variables or mix of variables searching for a
22 model that avoids what he calls "sign" problems.

23 You put the word sign in quotes. Is that
24 intended to be derogatory?

25 A No. I didn't mean it that way.

1 Q Can sign problems be serious problems
2 with --

3 A If there are sign problems you either have
4 -- you've either mis-specified your model or you may
5 have multicollinearity. I think it's obvious by now
6 that there is multicollinearity in that data, that sort
7 of data.

8 COMMISSIONER ACTON: Ms. Crowder, could you
9 please see if your microphone is on? The green light
10 should be illuminated.

11 THE WITNESS: It is.

12 COMMISSIONER ACTON: Thank you.

13 BY MR. COSTICH:

14 Q Do you recall whether Dr. Bradley had sign
15 problems?

16 A Actually I don't, no. Sorry.

17 Q At this point in your testimony you also say
18 that Dr. Smith was searching for a model that
19 satisfied his a priori expectations. Is that a
20 criticism?

21 A Yes, that's a criticism. It's a
22 description, but it's also to me that's a criticism.

23 Q Do you know whether Dr. Bradley had any a
24 priori expectations when he did his study?

25 A I believe that in order to have a priori

1 expectations you have to have a concept of what you're
2 modeling, and you have a specific model that you
3 believe adequately describes the particular operation
4 that you're trying to model. I think that Dr. Bradley
5 has tried to do that.

6 I saw nothing of that nature with Dr. Smith,
7 and that is the reason why I say these were just a
8 priori expectations, but I didn't see that they came
9 from any concept of what he really thought a model
10 should be. That's why I am criticizing.

11 Q When you say what the model should be, are
12 you referring to the variables that are included?

13 A The full specification of the model, the
14 form of it, what variables should be in there and how
15 the variables relate to each other, and then that will
16 tell you, and then after it's been estimated those
17 relationships should fit what you had expected in
18 terms of what you had been attempting to model.

19 COMMISSIONER ACTON: Ms. Crowder, I'm sorry,
20 or Mr. Costich? Can you please pull the microphone
21 just a bit closer so our friends on the web can hear?

22 THE WITNESS: Okay.

23 COMMISSIONER ACTON: Thank you.

24 THE WITNESS: As I get used to this, I'll
25 probably speak up louder.

1 COMMISSIONER **ACTON**: That's typically the
2 case.

3 BY MR. COSTICH:

4 Q Isn't it correct that Professor Bradley
5 rejected the use of a fixed effects model because the
6 variabilities he got with that model didn't conform to
7 his prior expectations?

8 A It's been a long time since I looked at his
9 testimony in the last rate case, and I honestly do not
10 remember.

11 Q Could you look at page 7 of your testimony,
12 lines 8 and 9?

13 A *Yes.*

14 Q You say that the only attempt Dr. Smith made
15 to deal with multicollinearity was to offer restricted
16 versions of his full quadratic models, right?

17 A Correct.

18 Q And this is a criticism?

19 A This is again a description, but fits into
20 the criticism that the analysis was relatively
21 preliminary. I think I've used the word superficial.

22 I think what he's done is he started looking
23 at this stuff and it's not complete and so the
24 criticism that I have is yes, he's done these things.
25 He hasn't gone any farther than that, and that's the

1 criticism I think that I have.

2 Q Do you mean that he hasn't gone any farther
3 than Dr. Bradley has gone?

4 A He's criticizing Dr. Bradley, and I don't
5 see that he has offered anything that is an
6 improvement over what Dr. Bradley has provided.

7 Q You conclude your testimony by recommending
8 that the Commission continue to use the Bradley study
9 from the last case, correct?

10 A Yes, sir.

11 Q So if Dr. Smith is using essentially the
12 same model and the same functional form, what is there
13 to criticize him for?

14 A For one thing, he does not include that
15 density variable that I happen to agree with Dr.
16 Bradley on, and for another, and I think this is
17 really my principal reason for wanting to continue
18 with Dr. Bradley's model is because I don't see
19 anything that Dr. Smith has done that suggests that we
20 need to discard Dr. Bradley.

21 I think there are improvements that could be
22 made. I'm not denying that, but we don't know which
23 way -- if we were to really get to the correct
24 improvements or the better improvements, I don't know
25 which way it would go. Would it be more like Dr.

1 Bradley? Would it be more like Dr. Smith?

2 We just don't know which way these results
3 will turn, and my preference would be to leave things
4 as they are in this case and spend some quality time
5 with the issue later. I'm not saying that everything
6 is perfect.

7 Q Professor Bradley ultimately used a
8 restricted quadratic form, did he not?

9 A Yes.

10 Q A full quadratic form is considered a
11 flexible form, right?

12 A Correct.

13 Q Could you explain a little bit what a
14 flexible form is or does?

15 A Well, with a flexible form when you estimate
16 it you can get a variety of curves, and when it's
17 estimated you can get closer to the correct curve that
18 truly explains the data.

19 Also with an unrestricted quadratic you can
20 investigate all the relationships among the variables,
21 and that's particularly useful in this case looking at
22 what the impact would be if a carrier was delivering
23 an assortment of mail rather than just one type of
24 mail. It's very important to see that.

25 Q Did Dr. Smith present unrestricted quadratic

1 forms in his testimony?

2 A Yes, he did.

3 Q Would that not represent an improvement over
4 Professor Bradley's?

5 A Ordinarily I would say that you want an
6 unrestricted, but we have a problem with this data and
7 that that's a multicollinearity problem.

8 When you have multicollinearity and it's
9 serious, and again I haven't done all my
10 investigation, but it looks like it's fairly serious.
11 You can't be sure of what you've got when it's all
12 there so you have to be very careful about what you do
13 and what you don't do with the data and with the
14 models.

15 I haven't come to a firm judgment about what
16 to do. I don't think it makes sense to just
17 arbitrarily say ordinarily a full quadratic is what
18 you want because that means if it's properly specified
19 there's no bias, and I would agree with that, but
20 you've got this multicollinearity problem and in order
21 to get a better estimate of some of the coefficients
22 maybe you trade a little bias for a better estimate.

23 There is a judgment call that needs to be
24 made, and I don't see that anybody has yet given me
25 really good judgment calls. You know, you can pick

1 and choose. When you have colinearity you can pick
2 and choose what you want and get whatever results you
3 want from it. I just don't think that's the right way
4 to do it.

5 I think what you need to do is look at it,
6 think about it, work with it and come to some very
7 reasoned judgment about it. That's why my preference
8 would be to take some more time and do a better job
9 with it.

10 Q Would an almost full quadratic be preferable
11 to the restricted quadratic that Dr. Bradley used?

12 A Again, these are judgment calls, and I think
13 it depends on the data and what you're looking at.
14 Honestly, I really can't say it's always this or it's
15 always that.

16 I think you really just need to look at what
17 the data is and also how you've modeled it and what
18 you really think is going on with the data. I just
19 don't have enough familiarity with it to tell you that
20 one is preferable to the other.

21 Q Could you look at page 13 of your testimony?
22 In Footnote 15 you say, "There is no information on
23 the type of carrier routes included in DOIS, e.g.
24 letters, special purpose or both."

25 Isn't it the case that Dr. Bradley's -- or

1 maybe it's Mr. Stevens' -- sample includes only
2 regular routes?

3 A I believe that's true.

4 Q And isn't it the case that all of the DOIS
5 data that the OCA has requested up to this point
6 consists of data from that same sample of zips and
7 groups?

8 A Yes, I understand that. Dr. Smith said
9 that.

10 Q Then isn't it the case that we know there
11 aren't any special purpose routes in the sample?

12 A In that sample, yes. I think I'm discussing
13 this generally, the whole gist of DOIS and the fact
14 that you're recommending DOIS is to be used on a more
15 all-encompassing basis.

16 That's how I was trying to describe it, but
17 you are very much correct. Dr. Smith explained that
18 to us that he's only using regular routes.

19 Q Could you look at page 15 of your testimony,
20 lines 14 to 16? Here you say, "By lumping together
21 Priority Mail, large packages and **SPRs** into one
22 variable, Dr. Smith ignores shape-related and handling
23 differences among these mail categories."

24 Is this a criticism?

25 A I think *you* could take it that way. I don't

1 think it's his fault. It's just that's the way the
2 DOIS data are.

3 Q Isn't it the case that Professor Bradley
4 lumped together all shapes in his collection volume
5 variable?

6 A I believe that's true.

7 Q Would you criticize Professor Bradley for
8 doing that?

9 A Well, frankly I just assumed most of the
10 collection volume was letters, letter-shapes. Yes,
11 there would be an equivalent kind of criticism for
12 that.

13 Q Could you look at page 18 of your testimony?

14 A Yes, sir.

15 Q At lines 17 through 19 you say that Dr.
16 Smith's CCSTS model only explains regular delivery
17 time as defined by the Postal Service. Is that
18 correct?

19 A Yes, sir.

20 Q Isn't that also true for Witness Bradley?

21 A Yes. Yes, sir.

22 MR. COSTICH: I have no further questions.

23 COMMISSIONER ACTON: Thank you, Mr. Costich.

24 Are there questions from the bench?

25 (No response.)

1 COMMISSIONER ACTON: Ms. Crowder, I have one
2 question for you, please.

3 THE WITNESS: Certainly.

4 COMMISSIONER ACTON: You mentioned that it
5 could be helpful to have some additional research in
6 the vein of some of the issues that you're here to
7 discuss with us today.

8 THE WITNESS: Yes, sir.

9 COMMISSIONER ACTON: I'm wondering if you
10 may have any indication on whether the sponsors who
11 brought you to us this afternoon would have any
12 interest in perhaps funding some of that research?

13 THE WITNESS: No, sir, I have no idea. I
14 have not discussed it with them, and I have no idea.

15 COMMISSIONER ACTON: Thank you.

16 Mr. McLaughlin, do you need a few moments?

17 MR. MCLAUGHLIN: Give me 10 seconds here
18 first, and I may give you a very quick answer.

19 COMMISSIONER ACTON: Great.

20 (Pause.)

21 MR. MCLAUGHLIN: Mr. Chairman, we have no
22 redirect.

23 COMMISSIONER ACTON: Thank you, Mr.
24 McLaughlin.

25 Ms. Crowder, that completes your testimony

1 here today. Thank you for joining us. Thanks for
2 your contribution to the record. You're excused.

3 THE WITNESS: Thank you.

4 (Witness excused.)

5 COMMISSIONER ACTON: This concludes today's
6 hearings. We'll reconvene Monday morning at 9:30 a.m.
7 We'll be receiving testimony from Witnesses Buc,
8 Crowder, Ingraham, Mitchell, Abdirahman, Bradfield and
9 McGarvey.

10 Thank you all.

11 (Whereupon, at 1:55 p.m. the hearing in the
12 above-entitled matter was adjourned, to reconvene at
13 9:30 a.m. on Monday, December 4, 2006.)

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REPORTER'S CERTIFICATE

DOCKET NO.: R2006-1
CASE TITLE: Postal Rate and Fee Changes, 2006
HEARING DATE: 12/1/06
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I hereby certify that the proceedings and evidence are contained fully and accurately on the tapes and notes reported by me at the hearing in the above case before the Postal Rate Commission

Date: 12/1/06



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